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**UNITED STATES ARMY**  
**HEALTH CARE STUDIES AND**  
**CLINICAL INVESTIGATION ACTIVITY**

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THE DENTAL HEALTH OF ARMY FAMILY MEMBERS: 1987-88  
VOLUME I:

INTRODUCTION AND METHODS/CHARACTERISTICS OF  
STUDY SAMPLE/DENTAL TREATMENT NEEDS

MAJ(P) Michael C. Chisick  
LTC Richard D. Guerin

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The Dental Health of Army Family Members:  
1987-88

Michael C. Chisick, MAJ, DC  
Richard D. Guerin, LTC, DC

Dental Studies Division  
U.S. Army Health Care Studies and  
Clinical Investigation Activity  
Ft. Sam Houston, Texas

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**The Dental Health of Army Family Members: 1987-88**

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## Chapter 1: Introduction and Overview

### 1.1 Purpose of the Study

The purpose of this study is to assess the dental treatment needs, dental utilization, and perceived need for dental care of family members of active duty U.S. Army personnel. It also surveys their enrollment in the Active Duty Dependent Dental Insurance Plan (ADDDIP) and their attitudes toward the plan. Comparing enrollment choice in the voluntary dental insurance plan with assessed treatment needs, the study seeks to determine whether adverse selection into the plan is occurring.

By examining such issues, this report seeks to contribute to planning for the future and to evaluating the impact of Army and DoD policies and programs as they are implemented. This information will be useful to the Assistant Surgeon General for Dental Services, the DoD Office of Health affairs, and other advocates of improving the dental health care of Army Family members.

### 1.2 Organization of the Report

The report consists of three volumes. Volume I discusses the purpose and design of the study, describes the characteristics of the samples, and presents findings on dental treatment needs. Volume II discusses and summarizes findings on dental utilization and perceived need for dental care. Volume III focuses on enrollment in the Active Duty Dependents Dental Insurance Plan and attitudes toward the plan. Results for spouses and children are presented separately.

### 1.3 Introduction

#### 1.3.1 Purpose of the report

This report presents the results of data collected in the 1987-88 study of the Dental Health of Army Family Members. The study seeks to answer specific questions about dental care issues affecting dependents and updates a knowledge base on their oral health status. The report describes the present situation of dependents with regard to dental treatment needs, dental utilization, perceived need for dental care, enrollment in the Active Duty Dependents Dental Insurance Plan (ADDDIP), and attitudes toward the ADDDIP.

#### 1.3.2 Background

The first study of the oral health status and dental treatment needs of family members of active-duty Army personnel was completed in 1974 (1). A second study was completed in 1977 (2). Since then, studies in the civilian population have documented a substantial decline in caries prevalence in the

United States (3-6). Too, there have been major changes in the demographic composition of the Army. Demographic shifts may have an impact on oral health status and dental treatment needs (7,8).

Congress authorized a dental insurance plan for military dependents in 1985 and appropriated funds to the Department of Defense for the program in the following year (9). In establishing a dependent dental insurance plan, Congress essentially created a dual choice with regard to dental care for Army families. Army families could now choose between seeking dental care on a space-available basis in military dental clinics or from private sector dentists. Many studies and reviews have addressed factors influencing the enrollment decision between prepaid group medical plans and conventional health insurance (10-29). Such situations are referred to as medical dual choice. We could find no literature where a dual choice for dental care has been investigated.

How Army families would respond to a voluntary dental insurance plan was unknown but of keen interest to several parties. Insurers and makers of military health policy wanted to know whether the dental insurance plan would attract high enrollment and have broad cross-sectional appeal to military families. Also of concern was adverse selection. That is, would only those with high levels of dental treatment needs enroll in the plan? Commanders of Army dental clinics and civilian dentists near military installations wanted to know what impact the plan would have on their operations. What proportion of Army dependents seeking space-available care in military clinics would now opt for care in the civilian sector? What intensity and mix of dental services would they require? No one had any idea of the cost of the program based on treatment needs.

To provide makers of military health policy with guidance on these issues, the Dental Studies Division, U.S. Army Health Care Studies and Clinical Investigation Activity, conducted a pilot study in 1986 (30). Because results from previous medical dual choice studies were neither clear nor consistent and were probably related to a particular practice context, we decided to examine many of the factors investigated in these studies in a dental dual choice context. Objectives of the pilot study were to quickly provide data on (1) the dental treatment needs of Army family members, (2) the reaction of military families to the DoD dental insurance plan, (3) the estimated cost of basic and comprehensive dental care for dependents, and (4) the likelihood that adverse selection into the dental insurance plan would occur.

Although the data from the pilot study are timely, the dental insurance plan that DoD implemented in August 1987 differs significantly from the plan tested in the pilot study. The actual plan is less expensive, especially for large families, and less comprehensive than the tested plan. Consequently, many of the policy-relevant questions the pilot study was designed to answer remain unanswered in the actual context in which the

enrollment decision was made.

This study was done to remedy that shortcoming, but it also addresses other concerns. The quality of data collected was upgraded by calibrating examiners and by making site visits to assure that calibration standards were adhered to. Aside from asking whether an Army family enrolled in the Active Duty Dependent Dental Insurance Plan, the study probed why families chose to enroll or not to enroll. More detailed oral health status and treatment needs were collected. Need for orthodontic care and sealants was included. Restorative needs were identified as recurrent, defective, or new. Data on the presence of sealants and periodontal health status were collected. Caries prevalence data was collected by tooth surface rather than by whole tooth.

Although too late to be a predictive study, this study will be a useful descriptive one. That is, instead of explaining who might enroll in dental insurance, it explains who did. This study is the first survey of Army family members since the inception of the ADDDIP in 1987. It is hoped that the findings in this report will be used to help improve the benefits of the plan and the oral health of military families.

## Chapter 2: Methods

### 2.1 Study Sample

#### 2.1.1 Target Population and Selection of Study Sites

Civilian spouses and children of active-duty U.S. Army officers and enlisted personnel at selected installations were the target population for The Dental Health of Army Family Members: 1987-88. We selected 10 study sites for spouses and two for children. Ft. Richardson, Alaska; Hawaii; Ft. Ord, California; Ft. Lewis, Washington; Ft. Hood, Texas; Ft. Bliss, Texas; Ft. Belvoir, Virginia; Ft. Gordon, Georgia; Ft. Benning, Georgia; and Ft. Campbell, Kentucky were chosen for the spouse sample. Ft. Sam Houston, Texas, and Ft. Lewis, Washington, were chosen for the child sample.

Study sites for spouses were selected to represent areas with differing costs of living and levels of space-available dental care. We assumed that the cost of dental care off post would vary with the cost of living. We further assumed that the cost of dental care off post plus the degree of access to space-available dental care in military clinics might affect the treatment needs of spouses and their attitudes toward the DoD dental insurance plan. To identify installations with different levels of dependent (space-available) dental care, we first determined the percent of total output of dental services being provided to dependents at every installation in Health Services Command (HSC). We then rank ordered this list and divided it into thirds. Installations were then classified as follows:

Below HSC Average - installations providing levels of dependent dental care that rank in the lower third of all HSC installations,

At HSC Average - installations providing levels of dependent dental care that rank in the middle third of all HSC installations, and

Above HSC Average - installations providing levels of dependent dental care that rank in the upper third of all HSC installations.

We determined that Ft. Ord (12.3%), Ft. Lewis (17.4%), Ft. Belvoir (17.8%), and Hawaii (19.5%) were providing levels of dependent dental care that were below the HSC average; Ft. Campbell (30.6%) and Ft. Gordon (33.0%) were providing levels of dependent dental care that were at the HSC average; and Ft. Hood (36.9%), Ft. Bliss (39.6%), Ft. Benning (42.7%), and Ft. Richardson (42.7%) were providing levels of dependent dental care that were above the HSC average.

Ft. Sam Houston was selected as a study site for children because it has a grade school and a high school on post. Only 4 army posts in the continental United States have high schools.



We sampled two of these posts in the pilot study. The other post has a mixed military and civilian enrollment, which would have made sampling difficult. Ft. Sam Houston is predominantly an Army Medical Department post with many soldiers of high socioeconomic status (i.e. high income, high education, and high health consciousness). To control for the bias that this might introduce into the study, we collected data on children at Ft. Lewis, Washington, a predominantly combat arms post with many soldiers of low socioeconomic status. Ft. Lewis has 6 grade schools on post. Data were also collected on preschool children at both installations.

### 2.1.2 Sampling Strategy

For spouses, two sampling strategies were employed. Initially, we attempted to select a random sample of spouses at each study site with the assistance of the Standard Installation and Division Personnel and Eligibility Reporting System (SIDPERS) activity. SIDPERS maintains a computerized listing of all personnel assigned to a military installation. Using the SIDPERS database, a random sample of married soldiers was selected keying off the terminal digits in their social security number. Married personnel in student or trainee status were excluded from the sample because they generally are not authorized, or choose not, to bring their spouses with them. Personnel with zip codes not in the immediate geographical area were excluded because it was assumed that many of them would not travel a great distance to participate in the study.

Letters explaining the goals of the study and endorsements from local installation commanders (including many general officers) were mailed to the randomly selected spouses. Because the response rate was so poor (between 8% and 20% at all study sites), we decided to use clinic-based convenience sampling. That is, spouses who reported to military dental clinics during the study were asked to participate. Distinction between spouses reporting for routine care and those seeking emergency care were made. Consequently, we identified 3 classes of source of patient:

volunteer - randomly selected spouses who responded to the letter asking them to participate in the study,

routine - spouses who reported to military dental clinics in search of routine dental care, and

sick call - spouses who reported to military dental clinics in search of emergency dental care.

We collected data on spouses from August 1987 to March 1988.

Children, who had parental consent, were examined in their schools. Follow-up letters to the parents of non-participants enhanced the response rate at Ft. Sam Houston. Time constraints did not permit this at Ft. Lewis. Children were examined in

March and May 1988.

## 2.2 Study Design and Procedure

This study collected data on oral health status, dental treatment needs, dental utilization, perceived need for dental care, tobacco use, enrollment in the Active Duty Dependents Insurance Plan (ADDDIP), and attitudes toward the ADDDIP. Twelve Army dental officers were calibrated to collect the data on oral health status and dental treatment needs. Examiners also collected some demographic data (age, sex, race, education, sponsor's rank, and sponsor's years of active duty for adults; age, sex, and race for children). The remainder of the data was collected from self-administered questionnaires completed by spouses or children's parents.

Examiners assessed the prevalence of dental caries using the DMFS and dfs indices (31). The number of decayed, missing, and filled permanent tooth surfaces (DMFS) and/or the number of decayed, missing, and filled deciduous tooth surfaces (dfs), as appropriate, was charted. Distinctions were made between filled surfaces; defective without decay, filled surfaces; decayed, unfilled surfaces; and recurrent decayed, filled surfaces.

Examiners then charted restorative treatment needs, by tooth, for 1 to 5 surface restorations, stainless steel crowns, cast restorations, removable or fixed prostheses, and extractions. In determining treatment needs, we instructed examiners to use their clinical judgment applying the guideline: "How would I treat this patient if I were a dentist in private practice and I knew this patient had dental insurance." Additionally, we asked examiners to use their clinical judgment to assign each tooth a treatment class based on the tooth's potential to cause a dental emergency within 12 months.

Examiners noted the presence of non-defective sealants and the need for sealant placement on deciduous and permanent teeth. Sealants were considered needed if a dental explorer would catch in a non-decayed occlusal, facial, or lingual surface on a molar or premolar.

For all dentate individuals over 11 years old, examiners noted the presence of pericoronitis or visually impacted third molars. For children under the age of 12, we evaluated the need for space maintenance using a computer algorithm to compare missing teeth noted on examination with an age and sex adjusted tooth eruption chart (32).

Using their clinical judgment, examiners recorded the need for oral prophylaxis and oral hygiene instruction on children only. The presence of acute necrotizing ulcerative gingivitis (ANUG) was noted on both adults and children. For adults only, examiners used a modified NIDR index (6) to record periodontal health status. The index used in this study differs from the

standard NIDR index in that a third pocket, the distolingual, was also measured, and recordings were made for the full mouth. Examiners then applied their clinical judgment to recommend periodontal scaling or surgery per sextant.

Examiners assigned each study participant a patient classification based on treatment need status. A patient was categorized as class 1 if no dental treatment or only an oral prophylaxis was required, class 2 if in need of dental care but unlikely to develop a dental emergency within 12 months, and class 3 if likely to develop a dental emergency within 12 months. Examiners then listed in priority the 3 most urgent treatment needs of patients who needed care.

Finally, if recent radiographs were available (bite-wing x-rays less than a year old and/or a panorex less than 2 years old), examiners read the films to diagnose if additional treatment requirements were present. Additional restorative needs per tooth or periodontal needs per sextant were charted on a separate form along with changes in treatment class or patient classification. This way, the enhancement of clinical findings by radiographs could be tested.

Items for the questionnaire were pretested with spouses at Ft. Sam Houston. Questions on the spouse and child surveys were organized into sections dealing with (1) use of English language, (2) family size and composition, (3) assignment history, (4) enrollment in and attitudes toward the ADDDIP, (5) dental utilization, and (6) perceived need for care. The adult survey contained a few questions on prevalence and intensity of tobacco use. Teen-agers completed a lengthier questionnaire probing their attitudes toward smokeless tobacco and their knowledge of its harmful effects on health. Child questionnaires collected additional family demographic data (parent's education level, sponsor's rank, which parent is on active duty, length of sponsor's military service, and sponsor's type of unit). Using school rosters, we identified children who were related and assigned them family codes. A copy of the examination forms and survey instruments is included as Appendix A.

## 2.3 Data Analysis

### 2.3.1 Data Management

Completed study forms were screened and edited by the Dental Studies Division, U.S. Army Health Care Studies and Clinical Investigation Activity and were entered onto a computer tape through a contract monitored by the Health Care Systems Support Activity. Data analysis was performed by Dental Studies personnel using the Statistical Analysis System (SAS).

### 2.3.2 Major Analysis Groups

Analysis of the survey data uses frequencies and cross-

tabulations for the study population or subgroups of the population defined by analysis variables. Results for adults are presented separately from the children. Children are split into 5 subgroups: (1) high school students, (2) preschoolers at Ft. Sam Houston, (3) preschoolers at Ft. Lewis, (4) grade school children at Ft. Sam Houston, and (5) grade school children at Ft. Lewis. Children were split into 5 subgroups for two reasons: (1) dental health status is strongly correlated with age, and (2) each subgroup was chosen with slightly different sampling strategies and had different response rates.

### 2.3.3 Key Outcome Variables

Results in this report are organized in chapters devoted to key outcome variables. These include dental treatment needs, dental utilization, perceived need for dental care, attitudes toward the ADDDIP, and enrollment in the plan.

#### 2.3.3.1 Dental Treatment Needs

Using findings from the oral examinations, we grouped dental treatment needs into one of three clinical areas: restorative, periodontal, and orthodontic. We also determined total dental treatment needs. Restorative needs included extractions, amalgams, composites, cast restorations, and fixed and removable prosthetic replacements. Periodontal needs included assessing the presence of acute necrotizing ulcerative gingivitis (ANUG) and the need for periodontal scaling and surgery.

#### Intensity of Restorative Needs

We defined the intensity of restorative needs by counting the number of teeth in need of restorative care and classifying patients into one of the following four groups:

- None - no teeth require restorative care,
- 1-3 teeth - 1 to 3 teeth require restorations, replacements, or extractions,
- 4-6 teeth - 4 to 6 teeth require restorations, replacements, or extractions, or
- 7 + teeth - 7 or more teeth require restorations, replacements or extractions.

#### Mix of Restorative Needs

Mix of dental treatment needs was based on the type of dental services required per patient. We defined three categories of mix:

- None - no teeth require restorations, replacements, or extraction,

- Simple - one or more teeth require only 1, 2, or 3 surface restorations or simple extractions, and
- Complex - one or more teeth require 4 or 5 surface restorations, cast restorations, bridges, removable partial or complete dentures, or complicated extractions.

### Severity of Restorative Needs

Using the restorative treatment class assigned to each tooth by the examiners (based on their clinical judgment of the tooth's potential to develop a dental emergency within 12 months), we assigned each patient to one of three categories reflecting severity of restorative treatment needs:

- none - no teeth require restorative care,
- routine - 1 or more teeth require restorative care but none are likely to develop into a dental emergency within the next 12 months, or
- emergent - at least one tooth requiring restorative care is likely to develop a dental emergency within the next 12 months.

For intensity, mix, and severity of restorative treatment needs, the individual is the unit of analysis. The need for partial and complete dentures was analyzed with the individual as the unit of analysis. However, we determined the distribution of restorative procedures from the subset of teeth in need of care.

### Intensity of Periodontal Disease

Examiners assessed the presence of ANUG and whether each sextant needed periodontal scaling or surgery. Counting the number of sextants requiring scaling or surgery, we classified patients based on their intensity of need for each respective service and for these services combined. Intensity ranged from 0 to 6 sextants by increments of two.

### Severity of Periodontal Disease

Using their clinical judgment, examiners noted whether the periodontal health of the patient was likely to lead to a dental emergency within the next 12 months if left untreated. We applied their findings to classify patients into three categories of severity for periodontal treatment needs:

- none - no periodontal treatment required,
- routine - some periodontal treatment required but unlikely to cause a dental emergency within 12 months if left untreated, or

emergent - a periodontal problem exists which is likely to result in a dental emergency within the next 12 months if left untreated.

The individual is the unit of analysis for all periodontal measures.

#### Severity and Mix of Orthodontic needs

Examiners collected several orthodontic traits and measures which we then used to calculate a treatment priority index (TPI) score for each patient. The TPI weights the severity of malocclusions and classifies patients into one of four groups (33):

- normal/minor - at most only minor displacements in teeth are present; no orthodontic treatment is necessary,
- elective - only slight orthodontic problems are present; orthodontic treatment is elective,
- severe - severe malocclusion exists; Orthodontic treatment is highly recommended, or
- handicapping - dysfunctional malocclusions that would benefit greatly from orthodontic care.

We combined the last two categories in our analysis. The individual is the unit of analysis for the TPI.

#### Severity of All Dental Treatment Needs

Finally, we classified each patient on the basis of the severity of their combined dental treatment needs. Three levels of severity were established:

- none - no dental treatment needs, except perhaps a prophylaxis or examination, are present,
- routine - some restorative, periodontal, or orthodontic treatment needs are present but none are likely to result in a dental emergency in 12 months, and
- emergent - at least one dental condition exists which may lead to a dental emergency within 12 months.

Dental treatment needs of spouses were analyzed by age, race, education level, rank of sponsor, source of patient, and level of dependent dental care. Dental treatment needs of children were analyzed by age, race, education level of the child's father, and sponsor's rank.

### Rank Order of Dental Treatment Needs

After assessing all dental treatment needs, we asked examiners to rank order these needs. In presenting these results, we separated patients who needed routine care from those having potential dental emergencies.

#### 2.3.3.2 Dental Utilization

On questionnaires completed by spouses or children's parents, we asked how long it had been since the patient last saw a civilian dentist and how long it had been since the patient last saw a military dentist. Using the shorter of the two intervals, we derived the time interval since the patient last saw any dentist. We categorized the sample into 4 intervals: 1 year, 2 years, 3 or more years, and never.

The timing of dental visits for the study samples is compared to appropriate age, sex, and race cohorts from the most recent national survey on dental utilization from the National Center for Health Statistics (34). In some cases, we could not make comparisons because of insufficient sample size.

#### 2.3.3.3 Perceived Need for Dental Care

We measured perceived need for dental care by asking spouses or children's parents three questions on a self-administered questionnaire:

- 1) Do you think your teeth need cleaning by a dentist or by a dental hygienist?
- 2) Do you think you need orthodontic care (braces)? and
- 3) Do you think you need other dental care?

We did not ask question 2 to parents of preschoolers. If a respondent answered yes to question 2 or 3, we considered them as having answered yes to the question:

- 4) Do you think you need any dental care, excluding teeth cleaning?

If a respondent answered yes to question 1 or question 2 or question 3, we considered them as having answered yes to the question:

- 5) Do you think you need any dental care?

Overall responses to questions 1-3 and 5 were computed. Perceptions of need for care were compared with clinical assessments of need to determine whether these measures correlate with one another.

#### 2.3.3.4 ADDDIP, Attitudes and Enrollment

We assessed attitudes of spouses and children's parents toward the Active Duty Dependents Dental Insurance Plan by asking 6 questions related to the plan, including enrollment status. The questions followed a brief description of the plan and were as follows:

- 1) Do you think this plan is a gain or loss of benefits for military family members?
- 2) Will this insurance plan meet the dental treatment needs of your family?
- 3) Do you plan to stay in the Army Family Member Dental Insurance Plan?
- 4) Please give the most important reason why you quit the Army Dental Insurance Plan.

The following choices were given:

- A) The monthly membership fee costs too much,
- B) My having to pay 20% of the costs for fillings is too much,
- C) I prefer to get care at a military dental clinic,
- D) Family member care is easy to get on this post,
- E) The plan does not cover enough services,
- F) My family will be moving overseas soon,
- G) The cost of dental care off-post is too high even with insurance,
- H) Filing insurance claims is too much trouble,
- I) Other.

- 5) Please give the most important reason why you stayed in the Army Dental Insurance Plan.

The following choices were given:

- A) Too long a wait for care at military dental clinics,
- B) I prefer to be treated by civilian rather than military dentists,
- C) Military dental clinics give only a few services to dependents,
- D) My family lives so far from post that it would be easier to go to a civilian dentist,
- E) Other.

- 6) Would you be willing to pay a higher monthly fee or a greater percentage of the cost for insured dental care if the plan were to cover more services?

At the child study sites, we used school rosters to identify children from the same family and assign family codes. To prevent families with multiple children from having greater



influence on the results than families with only one child, we used the family as the unit of analysis. Since rosters did not overlap for preschools, grade schools, and high schools, we chose to analyze only the largest group (grade school children) at each child study site.

We analyzed responses of spouses by age group, race, education level, sponsor's rank, sponsor's years of active duty, family size, level of dependent dental care, enrollment status, and willingness to pay more for a plan with expanded benefits. Responses by parents of school children were analyzed by race, education level of the child's father, sponsor's rank, sponsor's years of active duty, family size, enrollment status, and willingness to pay more for an expanded plan.

Finally, using the data we collected on dental treatment needs, we determined what proportion of spouses, grade school children, and high school children would qualify for non-maintenance care under the ADDDIP and under a comprehensive dental insurance plan. Non-maintenance care refers to all procedures other than those which recur periodically, i.e. all procedures except annual check-ups and teeth cleaning.

#### 2.3.4 Key Analysis Variables

Key analysis variables include rank of sponsor, age, race, and education level of the spouse or the child's parents. In addition to these variables, which are used in most analyses throughout the report, certain subgroups are used for analysis of specific outcome variables. For example, subgroups of family size and subgroups of access levels to space-available military dental care are analyzed with respect to the outcome variables, enrollment in dental insurance and attitudes toward the ADDDIP.

The analyses for this report are arranged in chapters that address the major issues of this report. Chapter 3 describes characteristics of the study sample. Chapter 4 describes dental treatment needs. Dental utilization is reported in chapter 5, perceived need for dental care in Chapter 6. Chapter 7 describes attitudes toward the ADDDIP and enrollment choice. In each chapter, results are described and discussed. Conclusions and recommendations are made. Tables in Appendix B show, for each outcome analyzed, the percentage distribution of responses or mean variables (as appropriate) for the overall sample and for the subgroups included in the table.

## Chapter 3: Results/Characteristics of The Study Sample

### 3.1 Spouses

#### 3.1.1 Sample Size and Source

A total of 3562 spouses received dental examinations and completed survey questionnaires. Roughly 44% of the sample are volunteers who responded to letters from randomly generated mailing lists. Another 44% are spouses who reported to military dental clinics for routine exams or treatment. The remaining 12.5% are from spouses who made emergency visits to military dental clinics. For various analyses, the sample size may be less than 3562 due to missing values. Because this is a convenience sample, caution should be used in applying these results to the general population of Army spouses. However, the results probably can be generalized to spouses who seek care in military dental clinics.

#### 3.1.2 Demographics of the Sample

Table 3-1 compares selected demographic characteristics of the study sample to the population of Army spouses. Population figures are estimated from a recent study by the U.S. Army Community and Family Support Center (37, 38). The sample differs from the population in having more spouses age 30 and above, with sponsors of rank E7 and above, and with some college or college degrees. With regard to sex, race, and family size, the two groups are comparable.

Sample characteristics that we measured for which we have no population data for comparison are presented in Table 3-2. The variation in sample size from one study site to another is due to differences in the size of the dependent population at these posts and the willingness of spouses to participate in the study. Nearly 40% of the sample reside on posts that provide low levels of space-available care in military clinics (below the Health Services Command (HSC) average). Nearly as many (37.6%) live on posts that provide high levels of space-available care (above the HSC average). Just under a quarter of the sample live on posts that provide the HSC average level of space-available dental care.

Slightly more than a third of the sample live in a high cost of living area (35.2%). The remainder live in low or moderate cost of living areas. A sizable number of spouses do not claim English as their native language (17.3%). Yet very few spouses say that difficulty with English prevents them from seeing a dentist (2.5%).

### 3.2 Preschoolers at Ft. Sam Houston

#### 3.2.1 Response Rate

From a total enrollment of 96 children at Ft. Sam Houston preschool, 95 returned parental questionnaires and 93 consented to an oral examination. This represents a 99% response rate for the questionnaire and a 96.9% examination rate.

#### 3.2.2 Sample Size for Questionnaires

Among the 95 respondents to the questionnaire, nearly all come from families with only one child enrolled in the preschool (91). Only 2 families have more than one preschooler. Thus, for analyses of questionnaire items, the sample size is at most 95, when the unit of analysis is the individual, and at most 93 (91 + 2) when the unit of analysis is the family. Due to missing values, for various analyses sample size may be less.

#### 3.2.3 Sample Size for Examinations

Among the 93 examined children, 88 have no sibling enrolled in preschool; three do. Thus when analyzing the data on examined children by individual, the sample size is at most 93. When analyzing the data by family, the sample size is at most 91 (88 + 3). Due to missing values sample sizes may be less in some analyses.

#### 3.2.4 Demographics of the Sample

Table 3-3 presents individual and family characteristics of examined preschool children at Ft. Sam Houston. The children range in age from 3 to 5 years old with most being 4 years of age. There are roughly an equal number of males and females. Over two-thirds are white (68.8%). The remainder are evenly split between Blacks and Hispanics.

Family demographic characteristics of preschoolers at Ft. Sam Houston whose parents responded to survey questionnaires are shown in Table 3-4. Children with sponsors of rank E5-E6 account for one-third of the sample. Nearly one-fourth have sponsors of rank O1-O3 (23.0%). Senior enlisted (E7-E9) and senior officers (O4 and above) account for most of the rest of the sample (37.4%). Few of the children have sponsors who are in the combat arms (3.2%). The military sponsor is most likely to be the father (82.4%) although over 10% have a female military sponsor. Dual military career households are infrequent (4.4%). Parents tend to be highly educated. Over 80% of mothers and fathers have completed at least some college. Half of the families sampled have 2 children. Almost 30% have three children. Nearly all are native English speakers (92.2%) and difficulty with English rarely impedes the child from seeing a dentist (1.1%).

### 3.3 Preschoolers at Ft. Lewis

#### 3.3.1 Response Rate

A response rate was not determined for preschoolers at Ft. Lewis.

#### 3.3.2 Sample Size for Questionnaires

Among the 82 completed questionnaires from parents of preschoolers at Ft. Lewis, 67 are from families with only one child enrolled in the preschool, 8 from families with more than one child enrolled. Thus, for analyses of questionnaire items, the sample size is at most 82, when the individual is the unit of analysis, and is at most 75 ( $67 + 8$ ) when the family is the unit of analysis. Sample size for various analyses may be less due to missing values.

#### 3.3.3 Sample Size for Examinations

Among the 73 examined preschoolers at Ft. Lewis, we identified 60 families with only one child enrolled in preschool and 8 families with more than one child enrolled. Thus for analyses of the subset of examined preschoolers at Ft. Lewis, the sample size is 73, when the individual is the unit of analysis, and at most 68 ( $60 + 8$ ), when the family is the unit of analysis. For various analyses, the sample size may be less due to missing values. The unit of analysis for examination data is the individual unless otherwise stated.

#### 3.3.4 Demographics of the Sample

Table 3-5 shows the demographic characteristics of examined preschool children at Ft. Lewis. Age ranges from 2-6 with most of the children being age 3-5. There are slightly more males (56.2%) than females. About 80% of the sample is evenly split between Blacks and whites. Just over 10% are Hispanic.

The demographic characteristics of respondents to the parental questionnaire for preschoolers at Ft. Lewis are presented in Table 3-6. Nearly 80% have sponsors of enlisted rank. Just over a quarter (27%) are assigned to combat units. About 75% of mothers and 70% of fathers have completed at least some college. Over 80% of families have only 1 or 2 children. While in most families the father is the parent on active duty (58.1%), nearly a quarter have both parents in the Army (24.3%) and almost a fifth have only the mother on active-duty (17.6%). Few are not native English speakers (4.0%). None claim difficulty with English prevents their child from seeing a dentist.

### 3.4 Grade School Children at Ft. Sam Houston

#### 3.4.1 Response Rate

From a total eligible population of 849, 807 children returned parental questionnaires, and 828 consented to an oral examination. The response rates for the questionnaire and the examination are 95.1% and 97.5%, respectively.

#### 3.4.2 Sample Size for Questionnaires

Among the 807 students whose parents completed questionnaires, 356 families have only one child enrolled in grade school, and 204 families have more than one child enrolled. For analyses of this data, the sample size is at most 807 when the individual is the unit of analysis and is at most 560 ( $356 + 204$ ) when the family is the unit of analysis. Sample size for various analyses may be smaller due to missing values.

#### 3.4.3 Sample Size for Examinations

Among the 828 grade school students examined at Ft. Sam Houston, we identified 340 families with a single child enrolled in grade school and 204 families with more than 1 child enrolled. When the individual is the unit of analysis, the sample size is at most 828. When the family is the unit of analysis, the sample size is at most 544 ( $340 + 204$ ). Sample size for some analyses may be less due to missing values.

#### 3.4.4 Demographics of the Sample

Table 3-7 contains demographic characteristics of grade school children at Ft. Sam Houston. They range in age from 5 to 13, are nearly evenly split between males and females, and are mostly white (51.6%). A quarter of the children are Black, one-fifth are Hispanic.

The demographic characteristics of parents who completed the survey questionnaire are in Table 3-8. Over two-thirds of the sponsors are mid-grade (E5-E6) or senior (E7-E9) non-commissioned officers. Almost all are from non-combat units (95.8%). Over four-fifths of fathers (81.9%) are educated beyond high school. Mothers, too, are well-educated. Nearly two-thirds (65.1%) have completed education beyond high school. Most families have two or more (89.9%) children. The father is the only parent on active duty in nearly all households (88.7%). A little more than 10% are not native English speakers, yet difficulty with English rarely prevents their child from seeing a dentist (0.2%).

### 3.5 Grade School Children at Ft. Lewis

#### 3.5.1 Response Rate

The total eligible population of the 5 grade schools at Ft. Lewis is 2,295. We examined 1,235 children and 1,252 children

returned parental questionnaires. This represents a 53.8% examination rate and a 54.6% response rate for the questionnaire.

### 3.5.2 Sample Size for Questionnaires

Among the 1,252 completed questionnaires from parents of grade school children at Ft. Lewis, 656 are from families with only one child enrolled in grade school; 278 are from families with more than one child enrolled. Thus, for analysis of the questionnaire, the sample size is at most 1,252, when the individual is the unit of analysis and is at most 934 (656 + 278) when the family is the unit of analysis. Sample size for various analyses may be less due to missing values.

### 3.5.3 Sample Size for Examinations

Among the 1,235 examined grade school children at Ft. Lewis, we found 655 families with only one child enrolled in grade school and 273 families with more than one child enrolled. Thus, when analyzing examined grade school children at Ft. Lewis, the sample size is at most 1,235 when the individual is the unit of analysis. The sample size is at most 928 (655 + 273) when the family is the unit of analysis. Sample size may be less, in various analyses, due to missing values.

### 3.5.4 Demographics of the Sample

Table 3-9 shows the demographic characteristics of examined grade school children at Ft. Lewis. Age ranges from 5-13 with most of the children being age 6-9. The sample is evenly split between males and females. Most of the sample is white (56.9%), one-fifth is Black, and the remaining one-fifth is Hispanic or other.

The demographic characteristics of parents who responded to the questionnaire are shown in Table 3-10. Over 70% of the sample have sponsors of mid-grade (E5-E6) or senior (E7-E9) enlisted rank. Forty percent of sponsors are assigned to combat units. While two-thirds of fathers have education beyond high school, less than half (49.2%) of mothers do. Most families have 2 or more (89.7%) children. In nearly all families, only the father is on active-duty (95.2%). About 10% are not English speaking natives but few state this prevents their child from seeing a dentist (1.1%).

## 3.6 High School Students

### 3.6.1 Response Rate

From a total eligible population of 529, 344 high school students returned parental questionnaires, and 299 consented to an oral examination. This represents a 65.0% response rate for the questionnaire and a 56.5% examination rate.

### 3.6.2 Sample Size for Questionnaires

Among the 344 questionnaire respondents, we identified 188 families with only one child enrolled in the high school and 68 families with more than one child enrolled. Thus, for analyses of questionnaire items, when the individual is the unit analysis, the sample size is at most 344. When the family is the unit of analysis, the sample size is at most 256 (188 + 68). For various analyses, sample size may be less due to missing values.

### 3.6.3 Sample Size for Examinations

Among the subset of 299 students who received oral examinations, we identified 163 families with only one child enrolled in the high school and 62 families with more than one child enrolled. Thus for analyses of the examined students, the sample size is at most 299, when the individual is the unit of analysis, and at most 225 (163 + 62) when the family is the unit of analysis. For various analyses, sample size may be less, due to missing values. The unit of analysis for examination data is the individual unless otherwise stated.

### 3.6.4 Demographics of the Sample

Demographic characteristics of high school students who received oral examinations are shown in Table 3-11. They range from 12 to 19 years of age with the majority being between 13 and 17 years old. The sample is evenly split between males and females. Over two-thirds are white, one-fifth are Black, and 10% are Hispanic. Since only examined high school students completed smokeless tobacco questionnaires, the demographics in Table 3-11 apply to respondents to that questionnaire as well.

The demographic characteristics of respondents to the parental questionnaire for high school students are presented in Table 3-12. The unit of analysis is at the family level. The sponsors of most of these students are junior (E5-E6) or senior (E7-E9) non-commissioned officers or field grade (O4 and above) officers. Nearly all sponsors are from non-combat units (96.9%). The parents of these children are highly educated. Over 85% of fathers have completed at least some college with one-third holding graduate degrees. Almost two-thirds (61.9%) of mothers have completed at least some college. The most common family size is two children (46.5%) but families with three or more children are not uncommon (40.2%).

## Chapter 4: Results/Dental Treatment Needs

### 4.1 Spouses

#### 4.1.1 Intensity, Mix, Distribution, and Severity of Restorative Treatment Needs by Demographics and Source of Patient.

The intensity, mix, distribution, and severity of restorative treatment needs by demographics, source of patient, and level of dependent dental care for spouses are presented in tables 4-1 to 4-24. The intensity of restorative needs varies considerably across these variables. Overall, just over a quarter (27.4%) of spouses have no restorative treatment needs. Gaps of 20% or greater exist between officer and enlisted spouses, between lower and upper education groups, and between routine and emergency clinic users. Spouses who are younger than 30, Black, less than college educated, reporting for sick call, at posts with low levels of dependent dental care, and have enlisted sponsors are less likely than other groups to require no restorative care. The intensity of restorative treatment needs is greatest among spouses who are older than 50, Black, less than high school educated, emergency patients, and have enlisted sponsors, especially E-1 to E-4s (Tables 4-1 to 4-6).

Overall, the mix of restorative care needed by spouses tends to be complex (47.9%). Forty to fifty percent of all age groups (Table 4-7) have complex restorative treatment needs. Blacks are more likely to have complex restorative needs (62.7%) than other racial groups (43.1% to 51.4%) (Table 4-8). The need for complex restorative care shows a strong inverse relationship with education (Table 4-9). While a majority of spouses with high school or less education have complex restorative needs (55% to 59%), a minority of spouses with some college or more education do (31.7% to 46.1%). Major differences in mix of restorative needs by rank exist (Table 4-10). Spouses of officers have fewer complex restorative needs (29.5%) than spouses of warrant officers (38.9%) or spouses of enlisted personnel (53.4%). Emergency clinic users are far more likely to have complex restorative needs (71.7%) than routine clinic users (42.9%) (Table 4-11). Likewise, spouses at posts with low levels of dependent dental care have greater complex restorative needs than spouses at posts with high levels of dependent dental care (36.6%) (Table 4-12).

The distributions of restorative procedures among teeth in need of care is given in tables 4-13 to 4-18. Overall, 41.3% of teeth in need of restorative care require 1-2 surface restorations, 37.3% require fixed or removable prosthetics, 13.2% require extraction, and 8.1% require 3-5 surface restorations. For spouses up to age 29 with restorative needs, one surface restorations are the most commonly needed procedure. Most extractions cluster in this age group as well. Among spouses age 30 and older with restorative needs, fixed and removable prosthetics are the most commonly needed procedures (Table 4-13).



Few major differences exist in the distribution of restorative procedures by rank of sponsor (table 4-16). Among teeth needing restorative care, extractions are more commonly needed by junior enlisted (E1-E4) and junior officer (O1-O3) spouses than by their more senior counterparts. The need for removable replacement teeth among teeth in need of restorative treatment is three times more common in warrant spouses (29.0%), and twice as common in enlisted spouses (21.9%) than in officer spouses (10.8%). Senior enlisted spouses (E7-E9) with restorative needs show the greatest requirement for removable replacement teeth. Thirty-six percent of their teeth with restorative needs require this service.

Slight variations occur in the distribution of procedures among teeth in need of restorative care by race (Table 4-14) and by source of patient (table 4-17). Although greater variation is present, no discernible pattern can be identified by education level (Table 4-15) or by level of dependent dental care (Table 4-18).

Overall, the majority of spouses have routine (62.2%) rather than emergent (10.4%) restorative treatment needs (Table 4-19). Although the severity of restorative treatment needs for spouses does vary across demographic characteristics (Tables 4-19 to 4-22), these variations are not of great magnitude. The proportion of spouses with emergent restorative needs is greatest for 20-29 year olds (12.6% to 15.1%), Blacks (14.7%), high school or less education (11.2% to 16.3%), and sponsors of junior (E1-E4) or middle (E5-E6) enlisted rank (12.2% to 15.1%). Spouses reporting for sick call (24.5%) were much more likely to have emergent restorative conditions than routine patients (7.1%) (Table 4-23). Table 4-24 reveals that spouses at posts with high levels of dependent dental care have 2-5% fewer emergent restorative conditions than spouses at other posts.

#### 4.1.2 Removable Partial Denture Needs by Demographics and Source of Patient.

Data on the need for removable partial dentures (RPDs) by spouses shows considerable variation (Tables 4-25 to 4-30). Overall, 9.1% of spouses require this service. Half of this need (4.6%) is for a mandibular RPD only. A strong direct relationship exists between age and RPD need. Fewer than 1% of spouses under 19 years old need a RPD versus 15.0% of spouses over 50 years old (Table 4-25). Blacks (18.8%) require RPDs more than other racial groups (6.3% to 10.3%) (Table 4-26). A strong inverse relationship exists between education level and RPD need, ranging from 17.9% for spouses with no high school education to 4.3% for spouses with beyond college education (Table 4-27). While the need for RPDs increases as sponsor's rank increases, spouses of officers are far less likely to need an RPD (2.2%) than spouses of warrants (9.8%) or spouses of enlisted ranks (11.0%) (Table 4-28). Sick call patients (13.0%) are more likely to need RPDs than routine patients (8.5%) (Table 4-29). The need for RPDs is greater for spouses at posts with low levels of

dependent dental care than elsewhere (Table 4-30).

#### 4.1.3 Complete Denture Needs by Demographics and Source of Patient.

Overall, only 1.2% of spouses need a complete denture. None require only a lower denture. The need for complete dentures increases with age, ranging from 0.3% for 20-24 year olds to 4.3% of 45-49 year olds (Table 4-31). Whites and Blacks (1.3% to 1.5%) are more likely to need complete dentures than Hispanics or other ethnic groups (0.8%) (Table 4-32). Spouses with less than college education (1.1% to 5.2%) are more likely to need complete dentures than spouses with college degrees or beyond (0.4% to 0.7%) (Table 4-33). Almost all complete denture needs reside in non-officer spouses. Whereas only 0.3% of officer spouses need complete dentures, 1.5% to 1.9% of enlisted and warrant spouses do (Table 4-34). As with other services, sick call patients (2.9%) are more likely to need complete dentures than routine patients (0.7%) (Table 4-35). Likewise, spouses at posts with low levels of dependent dental care have higher need levels for this service than spouses at other posts (Table 4-36).

#### 4.1.4 Prevalence of Acute Necrotizing Ulcerative Gingivitis by Demographics and Source of Patient.

There is a low prevalence of acute necrotizing ulcerative gingivitis (ANUG) among spouses. Overall, it is only 1.1%. The highest prevalence is among spouses less than 19 years old (3.6%). No spouses in this sample above 40 have ANUG (Table 4-37). ANUG is more common in whites (1.4%) than in other racial groups (0.4% to 0.7%) (Table 4-38), and it has an inverse relationship with education level (Table 4-39). The data shows that ANUG resides almost entirely in enlisted spouses (1.5%). There was none found in warrant spouses and only 0.1% in officer spouses (Table 4-40). The prevalence of ANUG was over three times higher in sick call patients (3.6%) than in routine patients (1.0%) (Table 4-41). No difference in ANUG prevalence is detected across levels of dependent dental care.

#### 4.1.5 Intensity and Severity of Periodontal Treatment Needs by Demographics and Source of Patient.

Data on the intensity and severity of periodontal treatment needs by demographics and source of patient for spouses are presented in Tables 4-42 to 4-64. Overall, over three-quarters of spouses have no requirement for periodontal scaling (Table 4-42).

For most demographic and source of care groups, the most common scaling requirement is 1 to 2 sextants. Only among spouses 50 years or older, other ethnics, and sick call patients is 5-6 sextants the most common scaling requirement. For spouses with less than a high school education, 3-4 sextants is the most common scaling requirement. Whites and Hispanics have lower scaling requirements than Blacks or other ethnic groups.

Education level shows a strong direct relationship with intensity of periodontal scaling needs. The proportion of spouses requiring no periodontal scaling differs by over 30% between the lowest and highest education levels. Spouses with less than high school education have higher needs for 5-6 sextants of periodontal scaling than spouses of other education levels (Table 4-44). Spouses of officers are more likely to have no periodontal scaling needs (87.3%) than spouses of warrants (75.3%) or enlisted ranks (73.6%) (Table 4-45). Sick call patients are more than twice as likely to need 5-6 sextants of scaling (13.5%) than routine patients (5.8%) (Table 4-46). Likewise, spouses at posts with low levels of dependent dental care are more likely to need 5-6 sextants of scaling than spouses elsewhere (Table 4-47).

Fewer than 10% of all spouses require periodontal surgery. Among spouses requiring this service, most need only 1-2 sextants of treatment. Heavy periodontal surgery needs (5-6 sextants) are found more often in spouses who are over 30, Hispanics or other ethnic groups, less than college educated, sick call patients, at posts with low levels of dependent dental care, and who have sponsors of senior enlisted (E7-E9) or senior officer (O4+) rank (Tables 4-48 to 4-53).

When scaling and surgery needs are combined, overall only 24.9% of spouses need any periodontal care. Among spouses needing periodontal care, the intensity of care required is most commonly 1-2 sextants. Only sick call patients, spouses over 45 years old, other ethnics, and spouses with no high school education are more likely to require 3 or more sextants of periodontal treatment (Tables 4-54, 4-55, 4-56, and 4-58). Blacks and other ethnics are more likely to need periodontal care than whites and Hispanics (Table 4-55). The greatest differential in need for periodontal treatment occurs across education level (table 4-56), ranging from less than 20% of spouses with college or more education to nearly half of spouses with no high school education. Periodontal treatment needs are greater for spouses at posts with low levels of dependent dental care than elsewhere (Table 4-59).

Overall, the severity of periodontal treatment needs is low. Only 6.2% of spouses have emergent periodontal conditions (Table 4-60). Blacks have a higher proportion of emergent periodontal conditions (9.0%) than other ethnic groups (5.1% to 7.3%) (Table 4-61). Education has a strong inverse relationship with severity of periodontal treatment needs (Table 4-62). Spouses with no high school education are four times as likely to have emergent periodontal conditions (12.8%) as spouses with college degrees (2.8%). Emergent periodontal conditions are less frequent in officer spouses (2.9%) than in warrant (4.5%) or enlisted (7.2%) spouses (Table 4-63). Sick call patients are four times as likely to have a periodontal emergency (12.4%) as routine patients (3.3%) (Table 4-64). The prevalence of emergent periodontal treatment needs is invariant across levels of dependent dental care.

#### 4.1.6 Orthodontic Treatment Needs by Demographics and Source of Patient.

Overall, 49.1% of the dentulous spouses in this sample have normal occlusions, 28.9% have elective orthodontic conditions, and 21.9% have severe or handicapping malocclusions (Table 4-65). A further breakdown of orthodontic needs across demographic groups and source of care is not shown because orthodontic needs are invariant across these variables. Table 4-65 shows that the prevalence of severe or handicapping malocclusions is 5.6% to 7.7% less at posts with low levels of dependent dental care than elsewhere.

#### 4.1.7 Severity of all Dental Treatment Needs by Demographics, Source of Patient, and Level of Space-available Dental Care.

Taking all dental treatment needs into consideration and rating their severity, we find that overall, only one-fifth of spouses have no dental treatment needs. Most have routine dental needs (53.7%) and 26% have at least one emergent dental condition (Table 4-66). The severity of all dental treatment needs varies significantly across demographic groups.

The prevalence of any treatment needs and the prevalence of emergent dental conditions generally show strong but opposite trends. As age increases, the proportion of spouses with no dental treatment needs increases (from 10.7% to 32.5%) while the proportion of spouses with an emergent dental condition decreases (from 31.9% to 12.5%) (Table 4-66). Whites (23.4%) and Hispanics (22.4%) are less likely to have an emergent dental condition than Blacks (34.4%) or other (30.2%) ethnic groups (Table 4-67). The proportion of spouses with no dental treatment needs has a strong direct relationship with education level ranging from 7.7% of spouses with no high school education to 35.4% of spouses with beyond college education. Emergent dental conditions are less prevalent among spouses with college degrees or higher (14.4% to 15.8%) than other education groups (25.4% to 38.8%) (Table 4-68). Officer spouses are more likely to have no dental treatment needs (37.0%) than warrant (24.0%) or enlisted (15.6%) spouses. Spouses of lower ranking officers or enlisted have more dental treatment needs than their more senior ranking counter parts. The prevalence of emergent dental conditions is twice as high in enlisted (30.1%) spouses as in warrant (15.0%) or officer (12.7%) spouses. Emergent dental needs decrease as sponsor's rank increases (Table 4-69). Sick call patients (63.2%) have considerably more emergent conditions than routine patients (16.7%) (Table 4-70).

Table 4-71 displays the relationship between the severity of all dental treatment needs and the level of space-available military dental care. The proportion of spouses needing routine dental care is fairly consistent across levels of space-available dental care. However, the proportion of spouses with emergent conditions decreases while the proportion with no dental

treatment needs increases as access to space-available dental care improves.

#### 4.1.8 Rank Order of Primary Dental Treatment Needs by Severity of all Dental Treatment Needs.

Tables 4-72 and 4-73 show the primary treatment needs of spouses with routine and emergent dental conditions, respectively. Oral prophylaxis is the most commonly needed dental procedure for spouses with routine needs. Extractions are the most commonly needed treatment for spouses with emergent needs. The next four needs for both groups have the same rank order and are similar in magnitude. These conditions include (in rank order) caries, defective restorations, periodontal disease, and prosthetic needs.

#### 4.1.9 Summary and Conclusions for Spouses

The following summary highlights findings from a convenience sample of 3,562 spouses of active duty soldiers at 10 Army installations. Because this is a convenience sample, caution should be used in applying these findings to the general population of Army spouses.

--Most spouses need some type of dental care. Only 20.3% of this sample have no dental treatment needs.

--The intensity of restorative treatment needs for spouses is predominantly low to moderate. Over three-quarters (76.3%) of spouses with restorative needs have 1 to 6 teeth involved. Almost a quarter (23.7%) of spouses with restorative needs have high treatment needs (7 or more teeth).

--The mix of restorative treatment needs is complex and costly. Among spouses with restorative needs, nearly half (47.9%) require complex restorative services. Among teeth requiring restorative care, 37.3% need expensive prosthetic (fixed or removable) treatment.

--Nearly a quarter (24.6%) of spouses require periodontal scaling. Among spouses in need of scaling, 68.7% have a low to moderate (1 to 4 sextants) scaling requirement; 31.3% have a high (5-6 sextants) scaling requirement.

--Only 7.9% of spouses require periodontal surgery. Among spouses requiring this service, 67% need only 1-2 sextants of surgery; only 16.5% need 5-6 sextants of surgery.

--Severe or handicapping malocclusions are present in 21.9% of dentulous spouses; 28.9% have elective orthodontic treatment needs.

--The severity of all dental treatment needs is high; 26% of spouses have at least one tooth that may develop into a dental emergency within 12 months if left untreated.

--The leading diagnosis among spouses in need of routine dental care is dental caries.

--The leading diagnosis among spouses in need of emergency dental care is extractions.

--The intensity, mix, and severity of any dental treatment need is much greater among sick call patients than other patients.

--Levels of dental treatment needs vary substantially by level of space-available dental care and by demographic characteristics. In general, dental treatment needs are highest for spouses with the following traits: at posts with low levels of space-available dental care, less than 30 years old, Black, less than college educated, and with enlisted sponsors.

#### 4.2 Preschoolers at Ft. Sam Houston

##### 4.2.1 Intensity, Mix, Distribution, and Severity of Restorative Treatment Needs by Demographics.

The intensity of restorative treatment needs among preschoolers at Ft. Sam Houston (FSH) is very low. Overall, 93.5% of FSH preschoolers have no restorative treatment needs; 4.3% have only 1-3 teeth with restorative needs. The remaining 2.2% have 4 or more teeth needing restorative care. Intensity of restorative treatment needs is invariant across demographic characteristics.

Mix of restorative needs is simple. None have complex needs. Since only 19 teeth in the sample have restorative needs, stratifying the sample by demographics to explore the distribution of restorative procedures yields little useful information. Cell sizes for individual strata are too small to provide stable estimates of the outcome measure. Overall, 57.9% of teeth needing restorative procedures require one-surface restorations. The remaining 42.1% require two-surface restorations. The severity of restorative care shows no emergent conditions. We found no need for sealants in this sample.

##### 4.2.2 Severity of all Dental Treatment Needs by Demographics

Combining sealant, restorative, and other treatment needs, we classified preschoolers by the severity of all their dental treatment needs. Notable variation by education level of the child's father (Table 4-74) and sponsor's rank (Table 4-75) occurs. Preschoolers with fathers having higher education and with officer or warrant sponsors are less likely to need dental care than other groups.

#### 4.2.3 Summary and Conclusions for Preschoolers at Ft. Sam Houston

The following summary highlights findings from a sample of 93 preschoolers from Army families at one installation. Despite the high examination rate (96.9%), the sample is small and comes from only one post. Demographics of the children's sponsors suggest the sample may be atypical. Many of the children have highly educated parents and high ranking military sponsors. Thus, caution should be used in applying these findings to the general population of preschool children of active-duty soldiers.

--Nearly all (92.5%) preschoolers have no dental treatment needs.

--Among preschoolers with restorative needs, the intensity of care required is predominantly low; 66% have only 1-3 teeth involved.

--Mix of restorative needs is simple. None have complex needs; 57.9% of teeth with restorative needs in preschoolers require 1 surface restorations.

--No preschoolers have teeth in emergent status. No teeth need sealants.

#### 4.3 Preschoolers at Ft. Lewis

##### 4.3.1 Intensity, Mix, Distribution, and Severity of Restorative Treatment Needs by Demographics

Because of the limited sample size (n=73), it is difficult to form meaningful strata in analyzing this data. Overall, 90.4% of preschoolers at Ft. Lewis require no restorative treatment. The bulk of those remaining (6.8%) have only 1-3 teeth that need restorative care. Only 2.8% have 4 or more teeth needing restorative attention. We found no restorative needs among preschoolers with officer or warrant sponsors. Mix of restorative needs show only 2.8% of Ft. Lewis preschoolers have complex needs, and 6.8% have simple needs. Of the 23 teeth requiring restorative care, the distribution of procedures required is as follows: 1 surface restorations, 47.8%; 2 surface restorations, 13.0%; 3-5 surface restorations, 21.7%; extractions, 4.3%; and stainless steel crowns, 13.0%. Only 1.4% of Ft. Lewis preschoolers have an emergent dental condition; 8.2% require routine care. We found that at least one sealant is needed by 6.8% of the sample.

##### 4.3.2 Severity of all Dental Treatment Needs

Overall, 83.6% of Ft. Lewis preschoolers have no dental treatment needs. Only 2.7% have an emergent dental condition; 13.7% need routine dental care.

#### 4.3.3 Summary and Conclusions for Preschoolers at Ft. Lewis

The following summary highlights findings from a sample of 73 preschoolers from Army families at one installation. The examination rate for the sample is unknown. It is probably very low considering the fact that Ft. Lewis has six day care facilities. The sample is small and comes from only one post. Demographics of the children's sponsors suggest the sample may be more representative of the Army than the sample from Ft. Sam Houston. More of the children have sponsors who are enlisted, female, and serving in combat arms units. Caution should be used in applying these findings to the general population of preschool children of active-duty soldiers.

--Nearly all (83.6%) preschoolers have no dental treatment needs.

--Among preschoolers needing restorative care, 70.8% have only 1-3 teeth involved. Thus, the intensity of restorative needs is predominantly low.

--Mix of restorative needs, among preschoolers in need of this service, is predominantly simple (70.8%). One surface restorations are the most common procedure needed (47.8%) among teeth in need of restorative care.

--Only 2.7% of preschoolers have an emergent dental condition. At least 1 sealant is needed by 6.8% of the sample.

#### 4.4 Grade School Children at Ft. Sam Houston

##### 4.4.1 Intensity, Mix, Distribution, and Severity of Restorative Treatment Needs by Demographics

The intensity of restorative treatment needs by demographics for grade school children at Ft. Sam Houston (FSH) is presented in Tables 4-76 to 4-81. Overall, nearly three-quarters of FSH grade schoolers have no restorative treatment needs. Many of the rest (23.1%) have only 1-3 teeth that need restorative work. Table 4-76 shows how need for restorative care for FSH grade schoolers varies with age. The proportion of children needing care is greatest among 6,7, and 10 year olds, and lowest among 11 year olds. Racial differences are noted in table 4-77. White (77.8%) and Hispanic (76.7%) children are more likely to have no restorative treatment needs than Blacks (68.0%) or other (56.2%) ethnic groups. A strong and direct relationship between education of the child's father and intensity of the child's restorative treatment needs exists (table 4-78). Children of officers are more likely to have no restorative treatment needs (84.8%) than children of warrants (71.4%) and enlisted (72.8%). Although children with E7-E9 sponsors have fewer restorative needs than junior enlisted grades, a similar gradient does not exist within officer ranks (Table 4-79).



Overall, the mix of restorative treatment needs tends to be simple (19.0%), but 6.5% of the sample have complex restorative needs. Table 4-80 reveals that 7 and 10 year olds are more likely to have complex restorative needs than other ages. Other ethnic groups (18.8%) are three times more likely than whites (6.3%), Blacks (6.8%), or Hispanics (5.5%) to have complex restorative requirements (Table 4-81). Children whose fathers have college or advanced degrees have fewer complex restorative needs (3.2% to 3.7%) than children whose fathers have less than a college education (7.0% to 7.5%) (Table 4-82). Differences in mix of restorative needs by sponsor's rank are shown in Table 4-83. Children of officers have fewer complex restorative needs (3.0%) than children of enlisted (6.5%) or warrants (9.5%). Children of more senior officers (O4+) and enlisted (E7-E9) have fewer complex restorative needs than children of more junior ranks.

A total of 401 teeth in this sample was identified as needing restorative care. The most common procedure needed is 1 surface restorations (40.1%), followed by 2 surface restorations (34.7%), stainless steel crowns (11.5%), extractions (7.7%), and 3-5 surface restorations (6.0%). For 7 and 8 year olds (Table 4-84), blacks (Table 4-85), and children of E1-E4s (Table 4-87), 2 surface restorations are the most commonly needed procedure instead of 1 surface restorations. The distribution of restorative procedures varies with the education level of the child's father (Table 4-86) but there is no discernible trend.

Severity of restorative treatment needs by demographics is presented in Table 4-88 to 4-91. Overall, 2.8% of FSH grade schoolers have an emergent dental condition. Emergent dental conditions are most common in 7 (4.8%) and 8 (5.2%) year olds and least common in 9 (0.9%) and 11 (1.0%) year olds (Table 4-88). They are most common in other (12.5%) ethnic groups and least common in Hispanics (0.6%) (Table 4-89). There is a direct relationship between the education level of the child's father and the presence of an emergent dental condition in the child. Less than 1% of children whose fathers have college or more education have emergent dental needs versus 3.1% to 3.7% of children whose fathers have some college or less (Table 4-90). Children of officers (0.6%) are less likely to have emergent dental needs than children of enlisted (2.9%) or warrant (4.8%) rank. Within rank groups, the prevalence of emergent dental conditions drops as rank goes up (Table 4-91).

#### 4.4.2 Prevalence of Sealant Needs by Demographics

Overall, two-thirds of FSH grade schoolers need no sealants. Most of those requiring sealants need only 1 or 2 surfaces sealed. The prevalence of sealant needs varies considerably by age. It is highest among 8 (43.9%) and 12-13 (43.2%) year olds and lowest among 5 (13.0%) year olds (Table 4-92). Whites (29.7%) are least likely to need sealants, while Hispanics (40.5%) need sealants most (Table 4-93).

Variation in sealant need by education level of the child's father ranges from 25.2% to 37.3% (Table 4-94). Children of officers (75.0%) are more likely to have no sealant needs than children of enlisted (63.8%) or warrants (61.9%) (Table 4-95).

#### 4.4.3 Orthodontic Treatment Needs by Demographics

Assessment of orthodontic treatment needs was confined to 6 to 11 year olds in order to make overall figures comparable to national studies. Overall, 65.0% of FSH grade school children have normal occlusions, 21.6% have elective needs for orthodontic care, and 13.4% have severe or handicapping malocclusions. Notable differences in orthodontic treatment needs occur by race. Whites are least likely to have severe or handicapping malocclusions (11.1%); Hispanics (17.7%) are most likely (Table 4-96). The prevalence of severe or handicapping malocclusions shows a strong inverse relationship with education level of the child's father, ranging from 17.1% of children whose fathers have high school degrees or less education to 7.7% of children whose fathers have more than a college education (Table 4-97). Children with officer sponsors are less likely to have severe or handicapping malocclusions (7.3%) than children of warrant (11.8%) or enlisted (14.8%) sponsors. Within rank group, as rank of the child's sponsor increases, the prevalence of severe or handicapping malocclusions increases (Table 4-98).

#### 4.4.4 Severity of All Dental Treatment Needs by Demographics

Overall, 44.6% of FSH grade schoolers need no dental care, 50.4% need routine dental care, and 5.0% have at least one potential dental emergency. The severity of all dental treatment needs varies substantially with age. The highest proportion of children with no dental treatment requirements is 5 year olds (67.5%); the lowest is 12-13 year olds (36.4%). Seven year olds are most likely to have an emergent dental condition (9.0%) and 11 year olds are least likely (2.0%) (Table 4-99). Whites (48.2%) are most likely to have no dental treatment needs; other (non-Black, non-Hispanic) ethnic groups (31.2%) are the least likely. Hispanics (3.7%) have the lowest prevalence of emergency dental needs (Table 4-100).

There is a strong inverse relationship between the education level of the child's father and the prevalence of emergent dental conditions (Table 4-101). Children of officers are less likely to have routine or emergent dental needs than children of warrants or enlisted (Table 4-102).

#### 4.4.5 Oral Prophylaxis Need

Of the 368 grade schoolers at FSH with no dental needs, 17.1% need an oral prophylaxis (Table 4-103).

#### 4.4.6 Rank Order of Primary Dental Treatment Needs By Severity of All Dental Treatment Needs

Table 4-104 and 4-105 show the primary treatment diagnoses of grade schoolers at FSH with routine and emergent dental conditions, respectively. Sealants (35.4%) are the most commonly needed dental procedure for grade schoolers with routine needs. Orthodontic (30.4%) treatment is the next most common diagnosis, closely followed by caries (29.2%). Among grade schoolers with emergent needs, caries (76.2%) are the most commonly diagnosed dental condition.

#### 4.4.7 Summary and Conclusions for Grade School Children at Ft. Sam Houston

The following summary highlights findings from a sample of 828 grade school children at one military installation. With a response rate of 95.1% and a large sample size, we are confident that these results accurately reflect the dental treatment needs of grade school children at Ft. Sam Houston. These findings, however, may not apply to the population of grade school children of active-duty soldiers at large because Ft. Sam Houston is an atypical military installation. FSH, as headquarters of the Army Medical Department, has a high proportion of highly educated, high income, health professionals who most likely possess high levels of health consciousness. FSH also has a lower proportion of combat arms personnel than most Army installations.

--A majority of grade school children need some type of dental care (55.4%).

--Almost three-quarters (74.5%) of grade schoolers have no restorative treatment needs.

--Among children needing restorative care, the intensity of treatment required is predominantly low; 90.6% have only 1-3 teeth involved.

--Among children needing restorative care, the treatment mix is predominantly simple (74.5%).

--One surface restorations are the most commonly needed procedure (40.1%) among teeth in need of restorative care.

--Roughly one-third (33.8%) of grade school children need sealants. Among children with this need, most (78.1%) need only 1-2 surfaces sealed.

--Severe or handicapping malocclusions are present in 13.1% of grade school children; 21.6% have elective orthodontic needs.

--The severity of all dental treatment needs is low. Only 5% of grade school children have dental conditions that may develop into a emergency within 12 months if left untreated.

--The leading diagnosis among grade school children in need of routine dental care is sealants (35.4%).

--The leading diagnosis among grade school children in need of emergency dental care is caries (76.2%).

--Levels of dental treatment needs vary across demographic characteristics. In general, dental treatment needs are greatest for grade school children with the following traits: 7-8 and 12-13 years old, non-white, and with sponsors of enlisted or warrant rank and less than a college education.

#### 4.5 Grade School Children at Ft. Lewis

##### 4.5.1 Intensity, Mix, Distribution, and Severity of Restorative Treatment Needs By Demographics

Overall, 71.9% of grade school children at Ft. Lewis have no restorative treatment needs. Most children with restorative needs have only 1-3 teeth requiring care. Intensity of restorative treatment needs varies slightly with age. Nine year olds are most likely to have restorative treatment needs (32.4%) while 11 year olds (22.6%) are least likely (Table 4-106). Hispanics are most likely to require restorative treatment (40.0%) and whites (22.2%) are least likely (Table 4-107). Children whose sponsors have college degrees or higher have lower restorative needs than children whose sponsors have less than a college education (Table 4-108). Children with officer or warrant fathers are less likely to have restorative needs than children with enlisted fathers (Table 4-109).

The overall mix of restorative treatment needs tends to be simple (20.9%); 7.2% of the sample have complex restorative needs. Table 4-110 reveals that 6, 9, and 10 year olds are more likely, while 5 and 11 year olds are less likely, to have complex restorative needs than other ages. Hispanics (11.4%) and other (10.8%) ethnics are more likely to have complex restorative needs than Blacks (7.0%) or whites (5.8%) (Table 4-111). Table 4-112 shows a strong inverse relationship between the education level of the child's father and the complexity of the child's restorative treatment needs.

Differences in the mix of restorative needs by sponsor's rank are shown in Table 4-113. Children of officers have fewer complex restorative needs (3.2%) than children of warrants (5.5%) or enlisted (8.3%). The level of complex needs for children does not vary within officer ranks. Within enlisted ranks, children of junior enlisted (3.7%) have fewer complex restorative needs than other enlisted ranks (8.5%).

A total of 713 teeth in this sample were identified as needing restorative care. The most common procedure needed is 1 surface restorations (39.0%), followed by 2 surface restorations (38.3%), stainless steel crowns (9.7%), extractions (8.5%), and

3-5 surface restorations (4.5%). For 7, 8, and 10 year olds (Table 4-114), other ethnic groups (Table 4-115), children whose fathers have college degrees or higher (Table 4-116), and children whose fathers are warrants, E1-E4s, or O1-O3s (Table 4-117), 2 surface restorations are the most commonly needed procedure rather than 1 surface restorations.

Severity of restorative treatment needs by demographics is presented in Tables 4-118 to 4-121. Overall, 3.3% of Ft. Lewis grade schoolers have an emergent dental condition. Emergent dental conditions are most common in 5 (4.3%) and 9 (5.0%) year olds and least common in 12-13 (1.2%) and 11 (1.4%) year olds (Table 4-118). They are most common in Hispanics (5.7%) and least common in Blacks (2.6%) (Table 4-119). Table 4-120 shows that emergent dental conditions are more prevalent among children whose fathers have less than a college degree than among children whose fathers have a college degree or higher. Children of officers are less likely to have emergent restorative needs (1.6%) than children of warrants (2.2%) or enlisted (3.8%) (Table 4-121).

#### 4.5.2 Prevalence of Sealant Needs By Demographics

Overall, 64.4% of Ft. Lewis grade schoolers need no sealants. Most children requiring sealants need only 1 or 2 surfaces sealed. The prevalence of sealant needs varies considerably by age. It is highest among 12-13 (45.8%) year olds and lowest among 5 (24.3%) year olds (Table 4-122). Table 4-123 show sealant needs vary little across ethnic groups. Children whose fathers have college degrees or less have greater sealant needs than children whose fathers have more than a college degree (Table 4-124). Children of officers are more likely to have no sealant needs (70.7%) than children of enlisted (63.4%) or warrants (60.4%) (Table 4-125).

#### 4.5.3 Orthodontic Treatment Needs By Demographics

Overall, 61.5% of Ft. Lewis grade school children have normal occlusions, 24.0% have elective needs for orthodontic care, and 14.5% have severe or handicapping malocclusions. Notable differences in orthodontic treatment needs occur by race. Blacks (9.5%) are least likely to have severe or handicapping malocclusions; whites (17.4%) are most likely (Table 4-126). Children whose fathers have college degrees (9.2%) have a lower prevalence of severe or handicapping malocclusions than other education groups (Table 4-127). Children with officer sponsors are less likely to have severe or handicapping malocclusions (10.2%) than children of enlisted (14.9%) or warrant (17.8%) sponsors. Within rank group, as rank of the child's sponsor increases, the prevalence of severe or handicapping malocclusions increases (Table 4-128).

#### 4.5.4 Severity of All Dental Treatment Needs by Demographics

Overall, 43.2% of Ft. Lewis grade schoolers need no dental care, 50.9% need routine dental care, and 6.0% have at least one potential dental emergency. The severity of all dental treatment needs varies considerably with age. Five year olds have the highest proportion of children with no dental treatment needs (54.3%); 11 year olds have the lowest (36.5%). Six year olds are most likely to have an emergent dental condition (8.3%); 11 year olds (2.2%) are least likely (Table 4-129). Whites are most likely to have no dental treatment needs (45.4%); Hispanics (38.1%) are the least likely. Whites have the lowest prevalence of emergency dental needs (4.7%); Hispanics (12.4%) have the highest prevalence (Table 4-130). The proportion of children with no dental treatment needs varies directly with the education level of the child's father. Emergent dental needs are more common among children whose fathers have less than a college education than among children whose fathers have a college degree or higher (Table 4-131). Children of officers are less likely to have emergent dental conditions (1.6%) than children of warrants (4.4%) or enlisteds (7.1%) (Table 4-132).

#### 4.5.5 Oral Prophylaxis Need

Of the 532 grade schoolers at Ft. Lewis with no dental needs, 24.4% need an oral prophylaxis (Table 4-133).

#### 4.5.6 Rank Order of Primary Dental Treatment Needs By Severity of All Dental Treatment Needs

Tables 4-134 and 4-135 show the primary treatment needs of grade schoolers at Ft. Lewis with routine and emergent dental conditions, respectively. Sealants (40.1%), caries (34.8%), and orthodontics (20.0%) are the three most common diagnoses for grade schoolers with routine needs. Among grade schoolers with emergent needs, caries (75.7%) are the most common diagnosis.

#### 4.5.7 Summary and Conclusions for Grade Schoolers at Ft. Lewis

The following summary highlights findings from a sample of 1,235 grade school children at one military installation. With a reasonably good response rate (53.8%) and a large sample size, we are confident that the sample is representative of the grade school age population at Ft. Lewis. This sample probably more closely approximates the population of grade school children of active-duty soldiers in the Army at large than the FSH sample, as Ft. Lewis is a more typical, combat arms, military installation.

--A majority of grade school children need some type of dental care (56.8%).

--Almost three-quarters (71.9%) of grade schoolers have no restorative treatment needs.

--Among children needing restorative care, the intensity of treatment required is predominantly low; 82.8% have only 1-3 teeth involved.

--Among children needing restorative care, the treatment mix is predominantly simple (74.4%).

--One-surface restorations are the most commonly needed procedure (39%) among teeth in need of restorative care.

--Roughly one-third (35.6%) of grade school children need sealants. Among children with this need, most (78.1%) need only 1-2 surfaces sealed.

--Severe or handicapping malocclusions are present in 14.5% of grade school children; 24% have elective orthodontic needs.

--The severity of all dental treatment needs is low. Only 6% of grade school children have dental conditions that may develop into an emergency within 12 months if left untreated.

--The leading diagnosis among grade school children in need of routine dental care is sealants (40.1%).

--The leading diagnosis among grade school children in need of emergency dental care is caries (75.7%).

--Levels of dental treatment needs vary across demographic characteristics. In general, dental treatment needs are greatest for grade school children with the following traits: 7,9 and 11-13 years old, non-white, and with sponsors of enlisted or warrant rank and less than a college education.

#### 4.6 High School Students

##### 4.6.1 Intensity, Mix, Distribution, and Severity of Restorative Treatment Needs

Overall, 82.9% of high school students at Ft. Sam Houston have no restorative treatment needs. Among those with restorative needs, most have only 1-3 teeth that require care. Need level is consistent across most age groups with the exception of 18-19 year olds. Only 68.2% of 18-19 year olds have no restorative treatment needs. Those requiring care are nearly evenly split between 1-3 and 4-6 teeth in need of treatment (Table 4-136). Blacks are least likely (69.8%) and Hispanics are most likely (93.3%) to have no restorative treatment needs (Table 4-137). No significant difference between need levels is present across education levels of the child's father. Children of warrants are less likely to have no restorative needs (75.0%) than other ranks (82.0% to 85.6%). Within officer and enlisted ranks, children with sponsors of more senior rank tend to have greater treatment needs (Table 4-138).

The overall mix of restorative treatment needs tends to be simple, with 10% of the sample having a simple case mix. There is a strong direct relationship between age and complexity of restorative treatment needs. Children age 12-15 are more likely to have simple restorative needs while those age 16-19 are more likely to require complex care (Table 4-139). While the mix of restorative treatment needs for Hispanics is evenly split between simple and complex, whites and Blacks are more likely to have simple needs. Blacks have the highest level of complex restorative needs (11.1%); Hispanics (3.4%) have the lowest (Table 4-140). Children whose fathers have college or advanced degrees have fewer complex restorative needs (5.5%) than children whose fathers have less than a college education (7.3% to 8.3%) (Table 4-141). Children of warrants are more likely to require complex restorative treatment (16.7%) than children of enlisted (6.6%) or officers (5.8%). Within rank groups, case complexity increases as rank increases (Table 4-142).

A total of 90 teeth in this sample was identified as needing restorative care. The three most common diagnoses are 1 surface restorations (57.8%), extractions (17.8%), and 2 surface restorations (12.2%). While over two-thirds of 12-15 year olds with restorative needs require 1 surface restorations, less than half of 16-19 year olds do. For 12-15 year olds with restorative needs, the second most needed procedure is 2 surface restorations or crown and bridge. Extractions are the second most needed procedure for 16-19 year olds (Table 4-143). The two most commonly needed procedures-- one-surface restorations and extractions-- are identical for Blacks and whites. The next most commonly needed procedure is crown and bridge for whites and two-surface restorations for Blacks (Table 4-144). Teen-agers whose fathers have less than a college education or have enlisted rank are more likely to need extractions and 2 surface restorations than teen-agers whose fathers have a college or advanced degree or have higher officer rank (Table 4-145 and 4-146).

Overall, only 0.3% of FSH teen-agers have an emergent restorative condition. Because of the low prevalence for this condition (one case), cross-tabulations by demographics are not shown.

#### 4.6.2 Prevalence of Sealant Needs By Demographics

As a whole, 60.5% of FSH teen-agers need no sealants. Among teen-agers needing sealants, roughly as many need 2 or fewer (20.4%) as need 3 or more (19.1%). The prevalence of sealant needs varies considerably with age. It is highest among 14-15 year olds (46.6%) and lowest among 12-13 year olds (30.3%). Among teen-agers needing sealants, 12-13 year olds and 18-19 year olds are more likely to need 3 or more sealants; 14-17 year olds are more likely to need 2 or less sealants (Table 4-147). Blacks (52.4%) have higher sealant needs than Hispanics (40.0%) or whites (36.0%). Blacks (31.7%) are twice as likely to need 3 or more sealants than whites (15.5%) or Hispanics (16.6%) (Table 4-148). There is a strong inverse relationship between sealant



needs and the education level of the child's father-- 53.2% of teen-agers whose fathers have a high school degree or less need sealants versus 31.0% of teen-agers whose fathers have a college degree or more (Table 4-149). Children of officers are more likely to have no sealant needs (69.2%) than children of warrants (58.3%) or enlisted (55.7%). Teen-agers with warrant or enlisted sponsors are more likely to need 2 or fewer sealants while teen-agers with officer sponsors are more likely to need 3 or more sealants (Table 4-150).

#### 4.6.3 Orthodontic Treatment Needs By Demographics

Overall, 58.7% of FSH teen-agers have normal occlusions, 18.1% have elective needs for orthodontic care, and 23.2% have severe or handicapping malocclusions. Whites are least likely to have severe or handicapping malocclusions (19.6%); hispanics (37.9%) are most likely (Table 4-151). Teen-agers whose fathers have a high school education or less are more likely to have severe or handicapping malocclusions (36.8%) than teen-agers whose fathers have more than a high school education (21.3%) (Table 4-152). Teen-agers with officer sponsors are less likely to have severe or handicapping malocclusions (13.0%) than teen-agers with enlisted sponsors (30.9%) (Table 4-153).

#### 4.6.4 Severity of All Dental Treatment Needs by Demographics

Overall, 47.7% of FSH teen-agers need no dental care, 51.0% need routine care, and 1.3% have an emergent dental condition. Fourteen to fifteen year olds, blacks, and hispanics are less likely than other groups to have no dental treatment needs (Tables 4-154 and 4-155). Table 4-156 shows a strong inverse relationship between sponsor's education level and the prevalence of dental treatment needs. Teen-agers with officer sponsors are more likely to have no dental treatment needs (56.7%) than teen-agers whose sponsors are warrants (50.0%) or enlisted (42.3%) (Table 4-157).

#### 4.6.5 Oral Prophylaxis Need

Of the 142 teen-agers at FSH with no dental needs, 27.5% need an oral prophylaxis (Table 4-158).

#### 4.6.6 Rank Order of Primary Dental Treatment Needs By Severity of All Dental Treatment Needs

Because only 4 teen-agers have emergent dental conditions, we only show the primary treatment needs of teen-agers with routine dental needs (Table 4-159). The three most common diagnoses are sealants (52.6%), orthodontics (19.7%), and caries (13.2%).

#### 4.6.7 Summary and Conclusions for High School Students at Ft. Sam Houston

The following summary highlights findings from a sample of 299 high school students at one military installation. Although we have a reasonably good response rate (53.8%), the sample is not large. Our findings may not apply to the population of high school students of active-duty soldiers at large because Ft. Sam Houston is an atypical military installation. FSH, as headquarters of the Army Medical Department, has a high proportion of well-educated, high income, health professionals who most likely possess high levels of health consciousness. FSH also has a lower proportion of combat arms personnel than most Army installations.

--A majority of high school students need some type of dental care (52.3%).

--Almost four-fifths (82.9%) of high school students have no restorative treatment needs.

--Among teen-agers needing restorative care, the intensity of treatment required is predominantly low; 84.2% have only 1-3 teeth involved.

--Among teen-agers needing restorative care, the treatment mix is predominantly simple (60%).

--One-surface restorations are the most commonly needed procedure (57.8%) among teeth in need of restorative care.

--Roughly two-fifths (39.5%) of high school students need sealants. Among teen-agers with this need, most (51.6%) need only 1-2 surfaces sealed; 28.9% need 4 or more surfaces sealed.

--Severe or handicapping malocclusions are present in 23.2% of high school students; 18.1% have elective orthodontic needs.

--The severity of all dental treatment needs is low. Only 1.3% of high school students have dental conditions that may develop into a emergency within 12 months if left untreated.

--The leading diagnosis among high school students in need of routine dental care is sealants (52.6%).

--Levels of dental treatment needs vary across demographic characteristics. In general, dental treatment needs are greatest for high school students with the following traits: 14-15 years old, non-white, and with sponsors of enlisted or warrant rank and less than a college education.

## REFERENCES

1. U.S. Army Institute of Dental Research, (U.S. Army Medical Research and Development Command) (1974). Dental Care Requirements for Dependents of Active-Duty Army Personnel (Report No. 32). Washington, D.C.
2. Barnes, G.P. and Parker, W.A. (1977). Dental Care Requirements of Dependents of Active-Duty U.S. Army Personnel (Report HCSD-77-001). U.S. Army Academy of Health Sciences, Health Care Studies Division. Ft. Sam Houston, TX.
3. National Caries Program NIDR (1981). Prevalence of Dental Caries in United States Children, 1979-80. NIH Pub. No. 82-2245.
4. JADA (1988). Dental Caries Continues Downward in Children; 117: 625.
5. Bohannon, H.M., Graves, R.C., Disney, J.A., Stamm, J.W., Abernathy, J.B., and Bader, J.D. (1985). Effect of Secular Decline in Caries on the Evaluation of Preventive Dentistry Demonstrations. Journal of Public Health Dentistry; 45: 83-89.
6. Epidemiology and Oral Disease Prevention Program, NIDR (1987). Oral Health of United States Adults: 1985-86 NIH Pub. No. 87-2868.
7. Hunter, P.B. (1988). Risk Factors in Dental Caries. International Dental Journal; 38: 211-217.
8. Graves, R.C. and Stamm, J.W. (1985). Oral Health States: Prevalence of Dental Caries. Journal of Dental Education; 49: 341-351.
9. Department of Defense Authorization Act (1986). Senate Report 1985; No. 99-118. Title VI: Section 651. Washington, D.C.
10. Munoz, C.A. (1988). Socioeconomic Determinates of Health Insurance Status Among Puerto Ricans. Puerto Rico Health Sciences Journal; 7: 27-30.
11. McGrath, F.M. (1988). Private Medical Insurance-to Have or Not to Have. NZ Med J; 101: 112-5.
12. Chetwynd, J., Fougere, G., Salter, D., and Hunter, W. (1986). Private Medical Insurance in New Zealand. NZ Med J; 99: 371-3.
13. Welch, W.P. and Frank, R.G. (1986). The Predictors of HMO Enrollee Population: Results Form a National Sample. Inquiry; 99: 371-3.

14. Arthur Little, Inc. Evaluation of the Impact of Competitive Incentives on Employees Choice of Health Care Coverage 1983; (NTIS Pub. PB 83-222927). National Technical Information Service. Springfield, VA.
15. McGuire, T.G. (1981). Price and Membership in a Prepaid Group Medical Practice. Med Care; 19: 172-183.
16. Juba, D.A., Lave, J.R., and Shaddy, J. (1980). An Analysis of the Choice of Health Care Benefits Plans. Inquiry; 17: 62-71.
17. Berki, S.E. and Ashcroft, M.L. (1980). HMO Enrollment: Who Joins What and Why: A Review of the Literature. Milbank Mem Fund Q; 58: 588-632.
18. Berki, S.E. Penchansky, R., Fortus, R.S., and Ashcraft, M.L. (1978). Enrollment Choices in Different Types of HMOs. Med Care; 16: 682-97.
19. Acito, F. (1978). Consumer Decision Making and Health Maintenance Organizations: A Review. Med Care; 16: 1-13.
20. Berki, S.E., Ashcraft, M. Penchansky, R., and Fortus, R.S. (1978). Enrollment Choice in a Multi-HMO Setting: The Roles of Health Risk, Financial Vulnerability, and Access to Care. Med Care; 15: 95-114.
21. Nycz, G.R., Wenzel, F.J., Lohrenz, F.N., and Mitchell, J.H. (1976). Composition of the Subscribers in a Rural Prepaid Group Practice Plan. Public Health Rep; 91:504-7.
22. Roghmann, K.J., Gavett, J.W., Sorenson, A.A., Wells, S., and Wersinger, R. (1975). Who Chooses Prepaid Medical Care: Survey Results from Two Marketings of Three New Pre-payment Plans. Public Health Rep; 90: 516-27.
23. Bice, T. (1975). Risk Vulnerability and Enrollment in a Prepaid Group Practice. Med Care; 13 698-703.
24. Tessler, R. and Mechanic, D. (1975). Factors Affecting the Choice Between Prepaid Group Practice and Alternative Insurance Programs. Milbank Mem Fund Q; 51: 271-317.
25. Roemer, M. and Shonick, W. (1973). HMO Performance: The Recent Evidence. Milbank Mem Fund Q; 51: 271-317.
26. Moustafa, A.T., Hopkins, C.E., and Klein, B. (1971). Determinants of Choice and Change of Health Insurance Plan. Med Care; 9: 32-41.
27. Gaus, C. (1971). Who Enrolls in a Prepaid Practice: The Columbia Experience. Johns Hopkins Med; 128: 9.

28. Bashshur, R.L. and Metzner, C. A. (1967). Patterns of Social Differentiation Between Community Health Association and Blue Cross-Blue Shield. Inquiry; 4: 23-44.
29. Yedidia, A. (1959). Dual Choicer Programs. Am. J. Public Health; 49: 1475-9.
30. Dental Studies Division, U.S. Army Health Care Studies Clinical Investigation (1987). The Dental Needs of Army Family Members, 1986: A Pilot Study, Ft. Sam Houston, Texas.
31. Spolsky, V.W., Kamberg, C.J., Lohr, K.N., and Feldman, B.G. (1983). Measurement of Dental Health Status. The RAND Corporation, Pub. No. R-2902-HHS. Santa Monica, California.
32. Moyers, R.E. (1977). Handbook of Orthodontics. Chicago: Yearbook Medical Publishers.
33. Grainger, R.M. (1967). Orthodontic Treatment Priority Index, Vital and Health Statistics. 2: 1-49.
34. Use of Dental Services and Dental Health US, 1986. U.S. Department of Health and Human Services, National Center for Health Statistics, DHHS Pub. No. (PHS) 88-1593. Hyattsville, MD.
35. Oral Health of United States Adults, 1985-86. U.S. Department of Health and Human Services, National Institute of Dental Research, NIH Pub. No. 87-2868.
36. The Prevalence of Dental Caries in U.S. Children, 1972-80. U.S. Department of Health and Human Services, National Institute of Dental Research, NIH Pub. No. 82-2245.
37. Griffith, J., Stewart, L., and Canto, E. (1988). Annual Survey of Army Families: A Report on Army Spouses and Families 1987. Research Triangle Institute.
38. Griffith, J., Gabel, T., and Stewart, L. (1988). Annual Survey of Army Families: A Report on Army Spouses and Families in 1987. Supplementary Tabulations. Research Triangle.

Appendix A  
Examination Forms and Survey Instruments

# FAMILY MEMBER DENTAL NEEDS SURVEY EXAMINATION

EXAMINER'S LAST FOUR SSN:

--	--	--	--

(5 - 8)

## PATIENT INFORMATION

SEX: (CIRCLE ONE)      M = MALE (9)  
                                     F = FEMALE

AGE: (ON LAST BIRTHDAY) (10, 11)

ETHNIC: (CIRCLE ONE)      B = BLACK      H = HISPANIC (12)

W = WHITE      O = OTHER (Am. Ind., etc.)

A = ASIAN

EDUCATION: (CIRCLE ONE) (13)

- |                      |                                    |
|----------------------|------------------------------------|
| 1 = NO HS            | 4 = SOME COLLEGE (Less than 4 yrs) |
| 2 = SOME HS          | 5 = COLLEGE GRAD (4 yrs)           |
| 3 = HS GRAD OR EQUIV | 6 = GRADUATE DEGREE                |

## SPONSOR INFORMATION

SPONSOR'S RANK: (CIRCLE ONE) (Example: PFC = E3, etc.) (14, 15)

E1 E2 E3 E4 E5 E6 E7 E8 E9      W1 W2 W3 W4

O1 O2 O3 O4 O5 O6 O7 O8

SPONSOR'S YEARS OF ACTIVE MILITARY SERVICE : (ROUND UP TO NEAREST YEAR) (16, 17)

## EDENTULOUS ASSESSMENT (Circle Appropriate Response)

	Edentulous	Denture Present	Denture Required	
Maxillary -	Yes	No	Yes	No (18-20)
Mandibular -	Yes	No	Yes	No (21-23)

## ORTHO ASSESSMENT (Circle Appropriate Response)

Are the following present?      Maxillary      Mandibular

FULL ORTHO BANDING	Yes	No	Yes	No	(24, 25)
POST ORTHO APPLIANCE	Yes	No	Yes	No	(26, 27)
MAXILLARY MIDLINE DIASTEMA > 2mm?			Yes	No	(28)
VERTICAL FACIAL FORM:	A = Normal	B = Long	C = Short		(29)
ANT-POST FACIAL FORM:	A = Normal	B = Class II	C = Class III		(30)

## ANUG ASSESSMENT (Circle Appropriate Response)

(1) Are there any punched out necrotic papillae present?:      Yes      No      (31)

Use Pencil Only To Record On This Form

DMFS						PERIO														
SURFACES					NEEDS	CLASS	MEASUREMENTS								BLEEDING	CALCULUS	PERIOTX NEEDS			CLASS
CODE							+ OR -	B U C A	B U C B	+ OR -	M E S A	M E S B	+ OR -	D L A			D L B	S C A L	S U R G	
M	O	D	F	L																
																		(32-34)		
																		(35-52)		
																		(53-74)		
																		(75-92)		
																		(93-110)		
																		(111-127)		
																		(128-144)		
																		(145-165)		
																		(166-182)		
																		(183-199)		
																		(200-216)		
																		(217-234)		
																		(235-252)		
																		(253-274)		
																		(275-292)		
																		(293-295)		
																		(296-298)		
																		(299-316)		
																		(317-338)		
																		(339-356)		
																		(357-374)		
																		(375-391)		
																		(392-408)		
																		(409-429)		
																		(430-446)		
																		(447-463)		
																		(464-480)		
																		(481-498)		
																		(499-516)		
																		(517-538)		
																		(539-556)		
																		(557-559)		



## ORTHO TREATMENT ASSESSMENT

(Circle Appropriate Response)

(Enter No. of teeth in boxes)



ANTERIOR OPENBITE (mm)

A = 0 B = <2 C = 2-4 D = >4

DISPLACED 2mm

OR ROTATED 45°

(560,561)

POSTERIOR OPENBITE (mm)

A = 0 B = <2 C = 2-4 D = >4

DISPLACED >2mm OR

ROTATED >45°

(562,563)

OVERJET (mm)

A = >9 B = 9 C = 8 D = 7 E = 6

F = 5 G = 4-2 H = 1 J = 0 K = -1

L = -2 M = -3 N = <-3

POSTERIOR CROSSBITE

(maxilla to lingual)

(564,565)

POSTERIOR CROSSBITE

(maxilla to buccal)

(566)

BUCCAL SEGMENT RELATIONSHIP (Circle One Appropriate Response)

CLASS II

A = 1 side C to C

Neutro

E = Neutro

CLASS III

F = 1 side C to C

(567)

B = 2 sides C to C or

1 side full

G = 2 sides C to C or

1 side full

C = 1 side C to C and

1 side full

H = 1 side C to C and

1 side full

D = 2 sides full cusp

distal

I = 2 sides full cusp

mesial

CROWN HEIGHT OF LOWER INCISOR (mm)

(568,569)

OVERLAP OF INCISORS:

A = Lower crown exposed ( + )

(Circle One Appropriate Response)

B = Lower crown not exposed ( - )

(570)

MM OF OVERLAP (Enter number of mm in box)

(571)

ALIGNMENT OF INCISORS (Circle Appropriate Responses)

(572-575)

UPPER

LOWER

Irreg Score (mm)      # Contacts

Irreg Score (mm)      # Contacts

0

0

0

0

1

1

1

1

2

2

2

2

3

3

3

3

4

4

4

4

5

5

5

5

6+

6+

## PATIENT CLASSIFICATION

PATIENT CLASSIFICATION (Circle One)

1 OR 2 OR 3

(576)

IF PATIENT CLASSIFICATION IS 2 OR 3, RANK ORDER OF NEEDS USING CODES BELOW:

1 = CARIES

6 = PERICORONITIS

2 = DEFECTIVE RESTORATION(S)

7 = PROSTHETIC REQUIREMENT

3 = PERIODONTAL DISEASE

8 = ORTHODONTICS

4 = ANUG

9 = SOFT TISSUE PATHOLOGY

5 = IMPACTIONS

0 = OTHER (State reason below-be specific)

Primary need:

(577)

Secondary need:

(578)

Tertiary need:

(579)

## RADIOGRAPHIC ASSESSMENT

ARE RADIOGRAPHS PRESENT FOR EXAM? (Circle Appropriate Response)      YES      NO      ( 580 )

**IMPORTANT - IF NO RADIOGRAPHS ARE PRESENT, LEAVE THE REMAINDER OF THIS FORM BLANK**

INDICATE BELOW THE TYPE OF RADIOGRAPHS PRESENT

(Circle Appropriate Response)

DATE OF PANX  
MO      YR

PANX: (More recent than 1982)	YES	<u>PRESENT</u>	NO	<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>	8	<div style="border: 1px solid black; width: 20px; height: 20px; display: inline-block;"></div>	(581-584)
BWX: (Within twelve months)	YES		NO				( 585 )
PAX: (Within six months)	YES		NO				( 586 )

**IMPORTANT - IF PATIENT'S NEEDS AND CLASSIFICATION ARE UNCHANGED AFTER VIEWING RADIOGRAPHS, LEAVE THE REMAINDER OF THIS FORM BLANK**

**IMPORTANT - IF PATIENT'S NEEDS AND CLASS ARE CHANGED, INDICATE BY TOOTH THOSE CHANGES ONLY AND THE RADIOGRAPH USED TO MAKE NEW DIAGNOSIS**

(USE SURFACES, NEEDS, AND CLASS CODES)

Rads Used Codes

1 = PAX  
2 = BWX  
3 = PANX

DMFS Needs Codes

ADD: E = Endo

Rads Used

Tooth #

SURFACES

M   O   D   F   L

NEEDS

D  
M  
F  
S

PERIO

S  
C  
A  
L

S  
U  
R  
G

C  
L  
A  
S  
S

Rads Used	Tooth #	M	O	D	F	L	D M F S	S C A L	S U R G	C L A S S

(587- 598)

(599- 610)

(611- 622)

(623-634)

(635- 646)

(647- 658)

**IMPORTANT - IF OVERALL CLASSIFICATION IS CHANGED, RECORD THE CHANGE AND PRIMARY REASON BELOW**

CHANGE IN CLASSIFICATION (Circle One)

1 OR 2 OR 3

( 659 )

INDICATE PRIMARY REASON FROM CODES BELOW:

(Circle Appropriate Response)

( 660 )

1 = CARIES	5 = ENDO	8 = OTHER (State reason - be
2 = DEFECTIVE RESTORATION(S)	6 = IMPACTED/UNERUPTED	specific) _____
3 = PERIODONTAL DISEASE	7 = PROSTHETIC	_____
4 = PERIAPICAL LESION	REQUIREMENT	_____

# YOUTH DENTAL NEEDS SURVEY EXAMINATION

SEX: (CIRCLE ONE)      M = MALE (5)  
                                     F = FEMALE

AGE: (ON LAST BIRTHDAY)      15 (6, 7)

ETHNIC: (CIRCLE ONE)      B = BLACK      H = HISPANIC      (8)  
                                     W = WHITE      O = OTHER (Am. Ind., etc.)  
                                     A = ASIAN

SPONSOR'S RANK: (Circle one)

E1 E2 E3 E4 E5 E6 E7 E8 E9      W1 W2 W3 W4      (9, 10)  
 O1 O2 O3 O4 O5 O6 O7 O8

SPONSOR'S TYPE OF UNIT: (Circle one)

A = COMBAT B = COMBAT SUPPORT; C = COMBAT SERVICE SUPPORT      (11)

## ORAL HYGIENE ASSESSMENT

IS ORAL HYGIENE INSTRUCTION REQUIRED?      Yes      No      (12)  
 IS PROPHYLAXIS REQUIRED?      Yes      No      (13)  
 IS ANUG PRESENT?      Yes      No      (14)

DMFS							DMFS										
T O O T H #	C O D E	S U R F A C E S					N E E D S	C L A S S	T O O T H #	C O D E	S U R F A C E S					N E E D S	C L A S S
		M	O	D	F	L					M	O	D	F	L		
1	M						0	0	17	M						0	0
2	X	D	X	X	X		1		18	X	F	X	X	X			
3	X					X	0		19	X	F	X	F	X			
4									20	X				X			
5									21								
6									22								
7									23								
8									24								
9									25								
10									26								
11									27	X				X			
12									28	X	Z	X	X	X			
13	X					X			29	X	Z	X	X	X			
14	X					F			30	X	F	X	X	X			
15	X	Z	X	X	X				31	X							
16	M						0	0	32	M					0	0	

(15-20)  
 (21-34)  
 (35-48)  
 (49-62)  
 (63-76)  
 (77-88)  
 (89-100)  
 (101-112)  
 (113-124)  
 (125-136)  
 (137-148)  
 (149-162)  
 (163-176)  
 (177-190)  
 (191-204)  
 (205-210)

NO 0250 (1-4)

## ORTHO ASSESSMENT (Circle Appropriate Response)

Are the following present?

Maxillary

Mandibular

FULL ORTHO BANDING

Yes ☐ No ☒

Yes ☐ No ☒

(211, 212)

ACTIVE ORTHO APPLIANCE

Yes ☐ No ☒

Yes ☐ No ☒

(213, 214)

POST ORTHO APPLIANCE

Yes ☐ No ☒

Yes ☐ No ☒

(215, 216)

MAXILLARY MIDLINE DIASTEMA > 2mm?

Yes ☐ No ☒

(217)

VERTICAL FACIAL FORM:

☒ A = Normal B = Long C = Short

(218)

ANT-POST FACIAL FORM:

☒ A = Normal B = Class II C = Class III

(219)

## ORTHO TREATMENT ASSESSMENT

**▼ (Circle Appropriate Response) ▼**

**(Enter No. of teeth in boxes)**

ANTERIOR OPENBITE (mm)

☒ A = 0 B = <2 C = 2-4 D = >4

DISPLACED 2mm

OR ROTATED 45°

☐ 0

(220, 221)

POSTERIOR OPENBITE (mm)

☒ A = 0 B = <2 C = 2-4 D = >4

DISPLACED >2mm OR

ROTATED >45°

☐ 2

(222, 223)

OVERJET (mm)

A = >9 B = 9 C = 8 D = 7 E = 6

F = 5 ☒ G = 4-2 H = 1 J = 0 K = -1

L = -2 M = -3 N = <-3

POSTERIOR CROSSBITE

(maxilla to lingual)

☐ 2

(224, 225)

POSTERIOR CROSSBITE

(maxilla to buccal)

☐ 2

(226)

BUCCAL SEGMENT RELATIONSHIP (Circle One Appropriate Response)

CLASS II

Neutro

CLASS III

A = 1 side C to C

☒ E = Neutro

F = 1 side C to C

(227)

B = 2 sides C to C or

1 side full

G = 2 sides C to C or

1 side full

C = 1 side C to C and

1 side full

H = 1 side C to C and

1 side full

D = 2 sides full cusp

distal

I = 2 sides full cusp

mesial

CROWN HEIGHT OF LOWER INCISOR (mm)

☐ 0 ☐ 7

(228, 229)

OVERLAP OF INCISORS:

(Circle One Appropriate Response)

☒ A = Lower crown exposed ( + )

☐ B = Lower crown not exposed ( - )

(230)

MM OF OVERLAP (Enter number of mm in box)

☐ 5

(231)

ALIGNMENT OF INCISORS

(Enter no. of mm between contact points)

UPPER

LOWER

☐ 2 • ☐ 2 • ☐ 2 • ☐ 2 • ☐ 2

☐ 0 • ☐ 0 • ☐ 0 • ☐ 2 • ☐ 2

(232-241)

## PATIENT CLASSIFICATION

PATIENT CLASSIFICATION (Circle One)

1 OR 2 OR 3

(242)

IF PATIENT CLASSIFICATION IS 2 OR 3, RANK ORDER OF NEEDS:

Primary Need:

☐ 1

Secondary Need:

☐

Tertiary Need:

☐

(243-245)

# CHILD FAMILY MEMBER (<12) DENTAL NEEDS SURVEY EXAMINATION

EXAMINER'S LAST FOUR SSN:

0733

 (5-8)

## PATIENT INFORMATION

SEX: (CIRCLE ONE) M = MALE (9)  
F = FEMALE

AGE: (ON LAST BIRTHDAY) 09 (10, 11)

ETHNIC: (CIRCLE ONE) B = BLACK H = HISPANIC (12)  
W = WHITE O = OTHER (Am. Ind., etc.)  
A = ASIAN

## ORAL HYGIENE ASSESSMENT

(Circle Appropriate Response)

IS ORAL HYGIENE INSTRUCTION REQUIRED? Yes No (13)  
IS PROPHYLAXIS REQUIRED? Yes No (14)

### DMFS

T O O T H #	T Y P E	SURFACES					N E E D S	C L A S S
		C O D E						
		M	O	D	F	L		
2		M				M		O
3		X	F	X		X		
4	T	X	F	X	X	F		
5	T	X				X		
6	T							
7	P							
8	P							
9	P							
10	P							
11	T							
12	T							
13	T	X				X		
14		X	A	X		X		
15		M				M		O

### DMFS

T O O T H #	T Y P E	SURFACES					N E E D S	C L A S S
		C O D E						
		M	O	D	F	L		
18		M				M		O
19		X		X	A	X		
20	T	X	F	X		X		
21	T	X				X		
22	T							
23	P							
24	P							
25	P							
26	P							
27	T							
28	T	X				X		
29	T	X	F	X	X	F		
30		X				X		
31		M				M		O

(15-28)  
(29-42)  
(43-58)  
(59-74)  
(75-88)  
(89-102)  
(103-116)  
(117-130)  
(131-144)  
(145-158)  
(159-174)  
(175-190)  
(191-204)  
(205-218)

# **ORTHO ASSESSMENT** (Circle Appropriate Response)

Are the following present?

Maxillary

Mandibular

FULL ORTHO BANDING

Yes

No

Yes

No

( 219, 220 )

ACTIVE ORTHO APPLIANCE

Yes

No

Yes

No

( 221, 222 )

POST ORTHO APPLIANCE

Yes

No

Yes

No

( 223, 224 )

MAXILLARY MIDLINE DIASTEMA > 2mm?

Yes

No

( 225 )

VERTICAL FACIAL FORM:

A

= Normal

B = Long

C = Short

( 226 )

ANT-POST FACIAL FORM:

A

= Normal

B = Class II

C = Class III

( 227 )

## **ORTHO TREATMENT ASSESSMENT**

(Circle Appropriate Response)

(Enter No. of teeth in boxes)

ANTERIOR OPENBITE (mm)

A = 0 B = <2 C = 2-4 D = >4

DISPLACED 2mm  
OR ROTATED 45°

0

( 228, 229 )

POSTERIOR OPENBITE (mm)

A = 0 B = <2 C = 2-4 D = >4

DISPLACED >2mm OR  
ROTATED >45°

0

( 230, 231 )

OVERJET (mm)

A = >9 B = 9 C = 8 D = 7 E = 6  
F = 5 G = 4-2 H = 1 J = 0 K = -1  
L = -2 M = -3 N = <-3

POSTERIOR CROSSBITE  
(maxilla to lingual)

0

( 232, 233 )

POSTERIOR CROSSBITE  
(maxilla to buccal)

0

( 234 )

BUCCAL SEGMENT RELATIONSHIP (Circle One Appropriate Response)

CLASS II

Neutro

CLASS III

A = 1 side C to C

E = Neutro

F = 1 side C to C

( 235 )

B = 2 sides C to C or  
1 side full

G = 2 sides C to C or  
1 side full

C = 1 side C to C and  
1 side full

H = 1 side C to C and  
1 side full

U = 2 sides full cusp  
distal

I = 2 sides full cusp  
mesial

CROWN HEIGHT OF LOWER INCISOR (mm)

07

( 236, 237 )

OVERLAP OF INCISORS:

A

= Lower crown exposed ( + )

(Circle One Appropriate Response)

B

= Lower crown not exposed ( - )

( 238 )

MM OF OVERLAP (Enter number of mm in box)

0

( 239 )

ALIGNMENT OF INCISORS

(Enter no. of mm between contact points)

UPPER

LOWER

2 • 2 • 0 • 0 • 2

0 • 0 • 0 • 0 • 2

( 240-249 )

## **PATIENT CLASSIFICATION**

PATIENT CLASSIFICATION (Circle One)

1

OR

2

OR

3

( 250 )

IF PATIENT CLASSIFICATION IS 2 OR 3, RANK ORDER OF NEEDS USING CODES BELOW:

Primary Need:

5

Secondary Need:

A

Tertiary Need:

( 251-253 )



Use No. 2 Pencil Only!

Case# \_\_\_\_\_

(661-664)

Month of exam \_\_\_\_\_

(665,666)

## ADULT FAMILY MEMBER DENTAL NEEDS SURVEY QUESTIONNAIRE

1. Is English your native language? (Circle Response) YES NO (667)

2. Does difficulty with English stop you from seeing the dentist? (Circle Response) YES NO (668)

3. How many children less than 21 years old live in your home? (If more than 9, enter 9)  (669)

4. Please list the ages of your children (If none, leave blank; if more than 5, list the 5 youngest).

CHILD #

AGE

1	____	____	(670,671)
2	____	____	(672,673)
3	____	____	(674,675)
4	____	____	(676,677)
5	____	____	(678,679)

5. What month and year did your family arrive at this assignment? (If January, 1985, write 01 85) \_\_\_\_\_ (680-683)  
Mo. Yr.

6. From the list provided, please give the letter which includes the military installation you resided near during your sponsor's last assignment:  (684)

(A) No previous assignment

(B) Ft. Ord	Ft. Dix	Ft. McClellan	Presidio of San Francisco
Ft. Lewis	Hawaii	Ft. Devens	
Ft. Belvoir	Walter Reed	West Point	
Ft. Meade	Ft. Monmouth	Ft. Irwin	

(C) Ft. Bragg	Redstone	Ft. Lee	Ft. Sam Houston
Ft. Carson	Ft. Knox	Ft. Gordon	Ft. Ben Harrison
Ft. Eustis	Ft. Rucker	Ft. Campbell	
Fitzsimons	Ft. Polk	Ft. Leonard Wood	

(D) Ft. Stewart	Ft. Sill	Ft. Huachuca	Japan
Ft. Jackson	Ft. Bliss	Ft. Benning	Korea
Ft. Riley	Alaska	Canal Zone	
Ft. Hood	Europe	Ft. Leavenworth	

(E) Any other post

7. What month and year did you arrive at your sponsor's last assignment? (If January, 1985, write 01 85) \_\_\_\_\_ (685-688)  
Mo. Yr.

This August the Army will be automatically enrolling military family members in a dental insurance plan in the United States. You may quit or stay in the plan. If you stay in the plan:

- ... you must pay a monthly membership fee of \$ 3.85 if you have one dependent or \$ 7.86 if you have two or more dependents
- ... you must stay in the plan for 2 years (except if your sponsor receives orders for duty overseas).
- ... you will get free dental exams, X-rays, and teeth cleanings.
- ... the plan will pay 80% of the costs (you will pay the remaining 20%) for fillings, stainless steel crowns, and repairs to dental appliances. Dental services not covered by the plan include gold or porcelain crowns (caps) or bridges, braces, gum surgery, prescriptions, dentures, and root canals.
- ... you can only get emergency care at military dental clinics (you will not be able to get space-available care).

- |  |                   |      |      |       |
|--|-------------------|------|------|-------|
| 8. Do you think this plan is a gain or loss of benefits for military family members? | (Circle response) | GAIN | LOSS | (689) |
| 9. Will this insurance plan meet the dental treatment needs of your family?          | (Circle response) | YES  | NO   | (690) |
| 10. Do you plan to stay in the Army Family Member Dental Insurance Plan?             | (Circle response) | YES  | NO   | (691) |

\*\*\*\*\*

If you answered "YES" to question #10, please go to question #13;  
if you answered "NO", please go on to the next question (#11).

\*\*\*\*\*

USE THE CHOICES BELOW FOR QUESTIONS 11 AND 12:

- (A) The monthly membership fee costs too much.
- (B) My having to pay 20% of the costs for fillings is too much.
- (C) I prefer to get care at a military dental clinic.
- (D) Family member care is easy to get on this post.
- (E) The insurance plan does not cover enough services.
- (F) My family will be moving overseas soon.
- (G) The cost of dental care off-post is too high even with insurance.
- (H) Filing insurance claims is too much trouble.
- (I) Other (Please state reason): \_\_\_\_\_

- |   |       |       |
|---|-------|-------|
| 11. From the list above, please give the letter of the <u>MOST</u> important reason why you quit the Army Dental Insurance Plan.        | _____ | (692) |
| 12. From the list above, please give the letter of the <u>SECOND MOST</u> important reason why you quit the Army Dental Insurance Plan. | _____ | (693) |

**PLEASE GO TO QUESTION #15**



USE THE CHOICES BELOW FOR QUESTIONS 13 AND 14:

- (A) Too long a wait for care at military dental clinics.
- (B) I prefer to be treated by civilian rather than military dentists.
- (C) Military dental clinics give only a few services to dependents.
- (D) My family lives so far from post that it would be easier to go to a civilian dentist.
- (E) Other (Please state reason): \_\_\_\_\_

13. From the list above, please give the letter of the MOST important reason why you stayed in the Army Dental Insurance Plan. \_\_\_\_\_ (694)

14. From the list above, please give the letter of the SECOND MOST important reason why you stayed in the Army Dental Insurance Plan. \_\_\_\_\_ (695)

15. Would you be willing to pay a higher monthly fee or a greater percentage of the cost for insured dental care if the plan were to cover more services? (Circle response) YES NO (696)

16. How many years has it been since you last visited a civilian dentist? (round up to the nearest year; for example, 2 months = 1 yr, 1 yr and 2 months = 2 yrs, never = 0); if more than 9 yrs, enter 9. \_\_\_\_\_ (697)

17. How many years has it been since you last visited a military dentist? (round up to the nearest year; for example, 2 months = 1 yr, 1 yr and 2 months = 2 yrs, never = 0); if more than 9 yrs, enter 9. \_\_\_\_\_ (698)

18. Please circle whether you have received the following types of care in a military dental clinic:

Examination or  
Teeth Cleaning

Sick Call

Fillings or other  
Dental Care

At your last assignment YES NO YES NO YES NO (699-701)

At this assignment YES NO YES NO YES NO (702-704)

19. Please circle whether you have received the following types of care in a civilian dental clinic:

Examination or  
Teeth Cleaning

Sick Call

Fillings or other  
Dental Care

At your last assignment YES NO YES NO YES NO (705-707)

At this assignment YES NO YES NO YES NO (708-710)

- |  |     |    |       |
|--|-----|----|-------|
| 20. Do you think your teeth need cleaning by a dentist or by a dental hygienist? (Circle response)                                 | YES | NO | (711) |
| 21. Do you think you need orthodontic care (braces)? (Circle response)   | YES | NO | (712) |
| 22. Do you think you need other dental care? (Circle response)   | YES | NO | (713) |
| 23. Have you ever had orthodontic care, such as having your teeth straightened or wearing braces to hold spaces? (Circle response) | YES | NO | (714) |
| 24. Do you smoke? (Circle response)  | YES | NO | (715) |
| 25. Have you ever smoked? (Circle response)  | YES | NO | (716) |

**If your answer is no, please go to question # 28**

- |   |     |    |            |
|---|-----|----|------------|
| 26. How many years have (or did) you smoke?   | —   | —  | (717, 718) |
| 27. How many cigarettes do (or did) you smoke per day?  | —   | —  | (719, 720) |
| 28. Do you use smokeless tobacco products such as chewing tobacco or snuff? (Circle response) | YES | NO | (721)      |

**If your answer is no, skip the remaining questions.**

- |  |     |    |            |
|--|-----|----|------------|
| 29. How many years have you used smokeless tobacco? (Circle response)                      | YES | NO | (722)      |
| 30. How often do you dip or chew? (Circle one response)                                    |     |    | (723)      |
| (A) At least once a day.   |     |    |            |
| (B) Weekly (once a week or so).  |     |    |            |
| (C) Other (For example, during baseball season only)                                       |     |    |            |
| 31. On the days that you use smokeless tobacco, how many times per day do you dip or chew? | —   | —  | (724, 725) |



Use No. 2 Pencil Only!

Case#

Month of exam

(254-257)

(258, 259)

# CHILD FAMILY MEMBER DENTAL NEEDS SURVEY QUESTIONNAIRE

1. Is English your native language? (Circle Response) YES NO (260)

2. Does difficulty with English stop your child from seeing the dentist? (Circle Response) YES NO (261)

3. How many children less than 21 years old live in your home? (If more than 9, enter 9) 3 (262)

4. Please list the ages of your children  
(If none, leave blank;  
if more than 5, list the 5 youngest).

CHILD #

AGE

1	<u>1</u> <u>5</u>	(263, 264)
2	<u>1</u> <u>2</u>	(265, 266)
3	<u>1</u> <u>2</u>	(267, 268)
4	<u>  </u> <u>  </u>	(269, 270)
5	<u>  </u> <u>  </u>	(271, 272)

5. What month and year did your family arrive at this assignment? (If January, 1985, write 01 85) 07 85 (273-276)  
Mo. Yr.

6. From the list provided below, please circle the letter which includes the military installation your family resided near during your sponsor's last assignment: (277)

(A) No previous assignment

(B) Ft. Ord	Ft. Dix	Ft. McClellan	Presidio of San Francisco
Ft. Lewis	Hawaii	Ft. Devens	
Ft. Belvoir	Walter Reed	West Point	
Ft. Meade	Ft. Monmouth	Ft. Irwin	

(C) Ft. Bragg	Redstone	Ft. Lee	Ft. Sam Houston
Ft. Carson	Ft. Knox	Ft. Gordon	Ft. Ben Harrison
Ft. Eustis	Ft. Rucker	Ft. Campbell	
<u>Fitzsimons</u>	Ft. Polk	Ft. Leonard Wood	

(D) Ft. Stewart	Ft. Sill	Ft. Huachuca	Japan
Ft. Jackson	Ft. Bliss	Ft. Benning	Korea
Ft. Riley	Alaska	Canal Zone	
Ft. Hood	Europe	Ft. Leavenworth	

(E) Any other post

7. What month and year did your family arrive at your sponsor's last assignment? (If January, 1985, write 01 85) 07 85 (278-281)  
Mo. Yr.

This August the Army will be automatically enrolling military family members in a dental insurance plan in the United States. You may quit or stay in the plan. If you stay in the plan:

- you must pay a monthly membership fee of \$ 3.85 if you have one dependent or \$ 7.86 if you have two or more dependents
- you must stay in the plan for 2 years (except if your sponsor receives orders for duty overseas).
- you will get free dental exams, X-rays, and teeth cleanings.
- the plan will pay 80% of the costs (you will pay the remaining 20%) for fillings, stainless steel crowns, and repairs to dental appliances. Dental services not covered by the plan include gold or porcelain crowns (caps) or bridges, braces, gum surgery, prescriptions, dentures, and root canals.
- you will not be able to use space-available care at military facilities, for care covered by the plan, except in emergency situations.

8. Do you think this plan is a gain or loss of benefits for military family members? (Circle response) GAIN LOSS (282)
9. Will this insurance plan meet the dental treatment needs of your family? (Circle response) YES NO (283)
10. Do you plan to keep your family in the Army Family Member Dental Insurance Plan? (Circle response) YES NO (284)

\*\*\*\*\*  
If you answered "YES" to question #10, please go to question #13;  
if you answered "NO", please go on to the next question (#11).  
\*\*\*\*\*

\*\*\*\*\*  
USE THE CHOICES BELOW FOR QUESTIONS 11 AND 12:

- (A) The monthly membership fee costs too much.
- (B) My having to pay 20% of the costs for fillings is too much.
- (C) I prefer to get care at a military dental clinic.
- (D) Family member care is easy to get on this post.
- (E) The insurance plan does not cover enough services.
- (F) My family will be moving overseas soon.
- (G) The cost of dental care off-post is too high even with insurance.
- (H) Filing insurance claims is too much trouble.
- (I) Other (Please state reason): \_\_\_\_\_

11. From the list above, please give the letter of the MOST important reason why your family quit the Army Dental Insurance Plan. \_\_\_\_\_ (285)
12. From the list above, please give the letter of the SECOND MOST important reason why your family quit the Army Dental Insurance Plan. \_\_\_\_\_ (286)

PLEASE GO TO QUESTION #15

USE THE CHOICES BELOW FOR QUESTIONS 13 AND 14:

- (A) Too long a wait for care at military dental clinics.
- (B) I prefer to be treated by civilian rather than military dentists.
- (C) Military dental clinics give only a few services to dependents.
- (D) My family lives so far from post that it would be easier to go to a civilian dentist.
- (E) Other (Please state reason): \_\_\_\_\_

13. From the list above, please give the letter of the MOST important reason why your family stayed in the Army Dental Insurance Plan. C (287)

14. From the list above, please give the letter of the SECOND MOST important reason why your family stayed in the Army Dental Insurance Plan. D (288)

15. Would you be willing to pay a higher monthly fee or a greater percentage of the cost for insured dental care if the plan were to cover more services? (Circle response) YES NO (289)

16. How many years has it been since your child last visited a civilian dentist? (round up to the nearest year; for example, 2 months = 1 yr, 1 yr and 2 months = 2 yrs, never = 0); if more than 9 yrs, enter 9. 1 (290)

17. How many years has it been since your child last visited a military dentist? (round up to the nearest year; for example, 2 months = 1 yr, 1 yr and 2 months = 2 yrs, never = 0); if more than 9 yrs, enter 9. 2 R (291)

18. Please circle whether your child has received the following types of care in a military dental clinic:

Examination or  
Teeth Cleaning

Sick Call

Fillings or other  
Dental Care

At your last assignment YES NO YES NO YES NO (292-294)

At this assignment YES NO YES NO YES NO (295-297)

19. Please circle whether your child has received the following types of care in a civilian dental clinic:

Examination or  
Teeth Cleaning

Sick Call

Fillings or other  
Dental Care

At your last assignment YES NO YES NO YES NO (298-300)

At this assignment YES NO YES NO YES NO (301-303)

20. Do you think your child's teeth need cleaning by a dentist or by a dental hygienist? (Circle response) YES NO (304)

21. Does your child need orthodontic care (braces)? (Circle response) YES NO (305)

22. Does your child need other dental care? (Circle response) YES NO (306)

23. Has your child ever had orthodontic care, such as having teeth straightened or wearing braces to hold spaces? (Circle response) YES NO (307)

24. What is the education level of the child's mother? (Circle response) (308)

- 1 = no high school      4 = some college (less than 4 yrs)  
2 = some high school      5 = college grad (4 yrs)  
3 = high school grad or equiv      6 = graduate degree

25. What is the education level of the child's father? (Circle response) (309)

- 1 = no high school      4 = some college (less than 4 yrs)  
2 = some high school      5 = college grad (4 yrs)  
3 = high school grad or equiv      6 = graduate degree

26. What is the rank of the child's sponsor? (Circle response)

E1 E2 E3 E4 E5 E6 E7 E8 E9 (310, 311)

W1 W2 W3 W4

O1 O2 O3 O4 O5 O6 O7 O8 +

27. Which parent is on active duty? (Circle response) (312)

a = father      b = mother      c = both

28. How many years of active military service has the sponsor completed? (If both parents are active duty, give the number of years of the parent with the longest time in service).

☐ ☐

(313, 314)

29. B

30. C

31. 15

32. 9

33. 048

34. N

## STUDENT QUESTIONNAIRE

Please tell us what you believe about the following statements by circling T for true or F for false:

1. Dentists can tell if someone uses smokeless tobacco. ☒ T F (319)
2. Smokeless tobacco is harmful to general health. ☒ T F (320)
3. Smokeless tobacco can cause high blood pressure. ☒ T F (321)
4. Smokeless tobacco is harmful to the gums. ☒ T F (322)
5. Smokeless tobacco can cause mouth cancer. ☒ T F (323)
6. Smoking is more harmful than smokeless tobacco. ☒ T F (324)
7. Have you ever tried: (Circle One)
  - A. Smoking
  - B. Smokeless tobacco (chewing tobacco or snuff)
  - C. Both A & B
  - ☒ D. None of the above (325)

If your answer is D, skip the remaining questions.

If your answer is C, answer all remaining questions on both sides.

If your answer is B, answer questions 12 through 18 on reverse side.

If your answer is A, answer questions 8 through 11 on this side only.

8. How old were you when you first tried smoking? \_\_\_\_ (326,327)
9. Which of the following best describes your smoking behavior?  
(Circle One)
  - A. I have only smoked a couple of times to see how I liked it (experimental use).
  - B. I only smoke once in a while (regularly, but not all the time).
  - C. I smoke daily.
  - D. I have smoked in the past, but no longer smoke (at all). (328)

If your answer is B or C, answer questions 10 and 11.

10. How many cigarettes do you smoke per day? \_\_\_\_ (329,330)
11. How many years have you smoked? \_\_\_\_ (331)
12. How old were you when you first tried smokeless tobacco?

\_\_\_\_\_ (332,333)

13. Which of the following best describes your use of smokeless tobacco? (Circle One)

- A. I have only dipped or chewed a couple of times to see how I liked it (experimental use).
- B. I only dip or chew once in a while (regularly, but not all the time).
- C. I dip or chew daily.
- D. I have used smokeless tobacco in the past, but no longer dip or chew (at all). (334)

If your answer is B or C, answer the remaining questions.

14. How many years have you used smokeless tobacco products? \_\_\_\_\_ (335)

15. How often do you dip or chew? (Circle One)

- A. At least once a day
- B. Weekly (once a week or so)
- C. Other (for example, during baseball season only) (336)

16. On the days that you use smokeless tobacco, how many times per day do you dip or chew? \_\_\_\_\_ (337,338)

17. About how many minutes do you hold each dip or chew in your mouth? \_\_\_\_\_ (339,340)

18. Please indicate which smokeless products you use most:

Snuff

A. Copenhagen B. Skoal C. Happy Days D. Other

Plug

E. Days-O-Work F. Bull of the Woods G. Apple Sun-cured  
H. Other

Pouch

I. Red Man J. Beech-Nut K. Big Red L. Mail Pouch M. Other (341)



**Appendix B**  
**Table of Results**

Table 3-1

Comparison of Selected Demographic Characteristics of the Study Sample to the Population of Army Spouses

Variable	Study Sample	Population
<u>AGE</u> (n=3562)		
19 yrs or below	3.1%	4.1%
20-24 yrs	20.7%	25.0%
25-29 yrs	23.8%	26.7%
30-34 yrs	24.2%	21.0%
35-39 yrs	16.5%	13.9%
40 yrs or above	11.7%	9.3%
<u>SEX</u> (n=3561)		
Male	2.2%	2.5%
Female	97.8%	97.5%
<u>RACE</u> (n=3557)		
White	65.0%	64.9%
Black	19.0%	17.9%
Hispanic	7.9%	7.8%
Other	8.1%	9.4%
<u>Education</u> (n=3540)		
Less than high school	6.1%	9.7%
High school graduate	39.1%	47.1%
Some college	37.8%	28.4%
College graduate	13.0%	8.9%
Beyond college	3.9%	5.8%
<u>Sponsor's Rank</u> (n=3560)		
E1-E4	21.0%	26.4%
E5-E6	35.4%	38.6%
E7-E9	19.2%	16.8%
W1-W4	4.3%	3.3%
O1-O3	11.1%	7.4%
O4 and above	9.1%	7.5%
<u>Number of Dependent Children</u> (n=3558)		
0 children	22.3%	22.7%
1 child	24.8%	25.9%
2 children	34.2%	32.9%
3 children	14.3%	12.6%
4 or more children	4.4%	6.0%

Table 3-2

Demographic Characteristics of the Study Sample: Spouses

	% of Sample	
<u>Source of Sample</u> (n=3562)		
Volunteer	43.8%	
Routine Visit	43.7%	
Emergency Visit	12.5%	
<u>Study Site</u> (n=3562)		
Ft. Lewis	10.8%	
Ft. Ord	10.7%	
Ft. Belvoir	4.5%	
Hawaii	13.9%	
Ft. Gordon	14.1%	
Ft. Campbell	8.4%	
Ft. Hood	8.9%	
Ft. Bliss	14.1%	
Ft. Richardson	6.1%	
Ft. Benning	8.5%	
<u>Level of Dependent</u>		
<u>Dental Care</u>		
Below HSC Average	39.9%	
Above HSC Average	37.6%	
At HSC Average	22.5%	
<u>Cost of Living Area</u>		
High Cost	35.2%	
Low or Moderate	64.8%	
	Yes	No
<u>Language Barriers</u>		
Is English your native language? (n=3560)	82.7%	17.3%
Does difficulty with English stop you from seeing the dentist? (n=3546)	2.5%	97.5%

Table 3-3

Individual and Family Characteristics of Preschoolers Examined at  
Ft. Sam Houston

	% of Sample
<u>AGE</u> (n=93)	
3 years	24.7%
4 years	43.0%
5 years	32.3%
<u>SEX</u> (n=93)	
Male	52.7%
Female	47.3%
<u>RACE</u> (n=93)	
White	68.8%
Black	16.1%
Hispanic	15.1%
Other	0%
<u>Sponsor's Rank</u> (n=88) *	
E1-E4	3.4%
E5-E6	33.0%
E7-E9	19.4%
W1-W4	3.4%
O1-O3	23.8%
O4 and above	17.0%
<u>Sponsor's Type of Unit</u> (n=90) *	
Combat	3.3%
Non-combat	96.7%
<u>Education Level of Mother</u> (n=88) *	
Less than high school	2.3%
High school graduate	14.8%
Some college	36.4%
College graduate	28.4%
Beyond college	18.2%
<u>Education Level of Father</u> (n=88) *	
Less than high school	0%
High school graduate	10.2%
Some college	38.6%
College graduate	22.7%
Beyond college	28.4%

\* Family is Unit of analysis

Table 3-4

Family Demographic Characteristics of Preschoolers at Ft. Sam Houston whose Parents Answered Survey Questionnaires

	% of Sample	
<u>Sponsor's Rank</u> (n=91)		
E1-E4	3.3%	
E5-E6	33.0%	
E7-E9	19.8%	
W1-W4	3.3%	
O1-O3	23.0%	
O4 and above	17.6%	
<u>Sponsor's Type of Unit</u> (n=92)		
Combat	3.2%	
Non-combat	96.8%	
<u>Education Level of Mother</u> (n=91)		
Less than high school	2.2%	
High school graduate	15.4%	
Some college	36.2%	
College graduate	28.6%	
Graduate degree	17.6%	
<u>Education Level of Father</u> (n=91)		
Less than high school	0%	
High school graduate	11.0%	
Some college	38.5%	
College graduate	22.0%	
Graduate degree	28.5%	
<u>Number of dependent Children</u> (n=91)		
1 child	14.3%	
2 children	50.5%	
3 children	29.7%	
4 or more children	5.5%	
<u>Parent on Active Duty</u> (n=91)		
Father only	82.4%	
Mother only	13.2%	
Both	4.4%	
	Yes	No
<u>Language Barriers</u>		
Is English your native language? (n=90)	92.2%	7.8%

Table 3-4 (Continued)

	Yes	No
Does difficulty with English stop your child from seeing the dentist? (n=90)	1.1%	98.9%

Table 3-5

## Individual and Family Characteristics of Preschoolers Examined at Ft. Lewis

	% of Sample
<u>AGE</u> (n=73)	
2 years	13.7%
3 years	28.8%
4 years	27.4%
5 years	28.8%
6 years	1.4%
<u>SEX</u> (n=73)	
Male	56.2%
Female	43.8%
<u>RACE</u> (n=73)	
White	41.1%
Black	39.7%
Hispanic	13.7%
Other	5.5%
<u>Sponsor's Rank</u> (n=64)	
E1-E4	15.7%
E5-E6	48.5%
E7-E9	14.1%
W1-W4	1.6%
O1-O3	10.9%
O4 and above	9.4%
<u>Sponsor's Type of Unit</u> (n=65)	
Combat	26.2%
Non-combat	73.8%
<u>Education Level of Mother</u> (n=64)	
Less than high school	1.6%
High school graduate	21.9%
Some college	46.9%
College graduate	18.8%
Beyond college	10.9%
<u>Education Level of Father</u> (n=63)	
Less than high school	3.2%
High school graduate	28.6%
Some college	39.7%
College graduate	15.9%
Beyond college	12.7%

Table 3-6

Family Demographic Characteristics of Preschoolers at Ft. Lewis  
whose Parents Answered Survey Questionnaires

	% of Sample	
<u>Sponsor's Rank</u> (n=72)		
E1-E4	13.9%	
E5-E6	51.4%	
E7-E9	13.9%	
W1-W4	1.4%	
O1-O3	11.1%	
O4 and above	8.3%	
<u>Sponsor's Type of Unit</u> (n=74)		
Combat	27.0%	
Non-combat	73.0%	
<u>Education Level of Mother</u> (n=73)		
Less than high school	1.4%	
High school graduate	24.7%	
Some college	47.9%	
College graduate	16.4%	
Graduate degree	9.6%	
<u>Education Level of Father</u> (n=72)		
Less than high school	2.8%	
High school graduate	29.2%	
Some college	40.3%	
College graduate	15.3%	
Graduate degree	12.5%	
<u>Number of Dependent Children</u> (n=75)		
1 child	37.3%	
2 children	45.3%	
3 children	13.3%	
4 or more children	4.0%	
<u>Parent on Active Duty</u> (n=74)		
Father only	58.1%	
Mother only	17.6%	
Both	24.3%	
	Yes	No
<u>Language Barriers</u>		
Is English your native language? (n=75)	96.0%	4.0%



Table 3-6 (Continued)

	Yes	No
Does difficulty with English stop your child from seeing the dentist? (n=74)	0%	100%

Table 3-7

Individual and Family Characteristics of Grade School Children  
Examined at Ft. Sam Houston

	% of Sample
<u>AGE</u> (n=828)	
5 years	9.3%
6 years	15.6%
7 years	17.5%
8 years	14.0%
9 years	13.9%
10 years	12.2%
11 years	12.2%
12 + years	5.3%
<u>SEX</u> (n=828)	
Male	47.1%
Female	52.9%
<u>RACE</u> (n=828)	
White	51.6%
Black	26.8%
Hispanic	19.7%
Other	1.9%
<u>Sponsor's Rank</u> (n=532)	
E1-E4	6.4%
E5-E6	45.0%
E7-E9	25.4%
W1-W4	3.0%
O1-O3	7.3%
O4 and above	12.9%
<u>Sponsor's Type of Unit</u> (n=529)	
Combat	4.0%
Non-combat	96.0%
<u>Education Level of Mother</u> (n=525)	
Less than high school	4.7%
High school graduate	30.1%
Some college	45.9%
College graduate	13.5%
Beyond college	5.7%

Table 3-7 (Continued)

Education Level of  
Father (n=525)

Less than high school	0.2%
High school graduate	17.7%
Some college	48.4%
College graduate	14.7%
Beyond college	19.0%

Table 3-8

Family Demographic Characteristics of Grade School Children at  
Ft. Sam Houston whose Parents Answered Survey Questionnaires

	% of Sample	
<u>Sponsor's Rank</u> (n=550)		
E1-E4	6.7%	
E5-E6	44.0%	
E7-E9	25.6%	
W1-W4	3.0%	
O1-O3	7.3%	
O4 and above	13.4%	
<u>Sponsor's Type of Unit</u> (n=547)		
Combat	4.2%	
Non-combat	95.8%	
<u>Education Level of Mother</u> (n=542)		
Less than high school	4.8%	
High school graduate	30.1%	
Some college	45.8%	
College graduate	13.3%	
Graduate degree	6.1%	
<u>Education Level of Father</u> (n=542)		
Less than high school	0.2%	
High school graduate	17.9%	
Some college	48.3%	
College graduate	14.4%	
Graduate degree	19.2%	
<u>Number of Dependent Children</u> (n=554)		
1 child	10.1%	
2 children	48.4%	
3 children	26.7%	
4 or more children	14.8%	
<u>Parent on Active Duty</u> (n=551)		
Father only	88.7%	
Mother only	9.1%	
Both	2.2%	
	Yes	No
<u>Language Barriers</u>		
Is English your native language? (n=554)	88.3%	11.7%

Table 3-8 (Continued)

	Yes	No
Does difficulty with English stop your child from seeing the dentist? (n=548)	0.2%	99.8%

Table 3-9

Individual and Family Characteristics of Grade School Children  
Examined at Ft. Sam Houston

	% of Sample
<u>AGE</u> (n=1235)	
5 years	5.7%
6 years	16.5%
7 years	17.4%
8 years	16.6%
9 years	14.5%
10 years	11.5%
11 years	11.1%
12 + years	6.7%
<u>SEX</u> (n=1235)	
Male	49.2%
Female	50.8%
<u>RACE</u> (n=1235)	
White	56.9%
Black	21.9%
Hispanic	8.5%
Other	12.7%
<u>Sponsor's Rank</u> (n=911)	
E1-E4	5.0%
E5-E6	45.8%
E7-E9	25.4%
W1-W4	7.5%
O1-O3	7.5%
O4 and above	7.5%
<u>Sponsor's Type Unit</u> (n=919)	
Combat	40.4%
Non-combat	59.6%
<u>Education Level of Mother</u> (n=890)	
Less than high school	7.9%
High school graduate	43.1%
Some college	35.6%
College graduate	9.4%
Beyond college	3.9%

Table 3-9 (Continued)

Education Level of  
Father (n=893)

Less than high school	0.5%
High school graduate	32.4%
Some college	43.9%
College graduate	13.2%
Beyond college	10.0%

Table 3-10

Family Demographic Characteristics of Grade School Children at  
Ft. Lewis Whose Parents Answered Survey Questionnaires

Sponsor's Rank (n=926)

E1-E4	5.1%
E5-E6	45.8%
E7-E9	26.4%
W1-W4	7.7%
O1-O3	7.4%
O4 and above	7.6%

Sponsor's Type of Unit  
(n=925)

Combat	40.2%
Non-combat	59.8%

Education Level of  
Mother (n=905)

Less than high school	7.8%
High school graduate	43.1%
Some college	35.9%
College graduate	9.4%
Graduate degree	3.9%

Education Level of  
Father (n=908)

Less than high school	0.5%
High school graduate	32.5%
Some college	43.5%
College graduate	13.4%
Graduate degree	10.0%

Number of Dependent  
Children (n=928)

1 child	10.3%
2 children	47.7%
3 children	28.7%
4 or more children	13.2%

Parent on Active Duty  
(n=923)

Father only	95.2%
Mother only	3.4%
Both	1.4%

	Yes	No
<u>Language Barriers</u>		
Is English your native language? (n=922)	90.2%	9.8%



Table 3-10 (Continued)

	Yes	No
Does difficulty with English stop your child from seeing the dentist? (n=912)	1.1%	98.9%

Table 3-11

## Individual and Family Demographics Characteristics of High School Students Who Received Oral Examinations

	% of Sample
<u>AGE</u> (n=299)	
12 years	8.0%
13 years	17.7%
14 years	20.7%
15 years	18.1%
16 years	16.4%
17 years	12.0%
18 + years	7.0%
<u>SEX</u> (n=299)	
Male	49.5%
Female	50.5%
<u>RACE</u> (n=297)	
White	67.3%
Black	21.2%
Hispanic	10.1%
Other	1.3%
<u>Sponsor's Rank</u> (n=225) *	
E1-E4	0.9%
E5-E6	26.2%
E7-E9	36.0%
W1-W4	4.5%
O1-O3	6.8%
O4 and above	25.6%
<u>Sponsor's Type of Unit</u> (n=224) *	
Combat	3.8%
Non-combat	96.2%
<u>Education Level of Mother</u> (n=223) *	
Less than high school	4.4%
High school graduate	34.6%
Some college	40.8%
College graduate	12.6%
Beyond college	7.6%
<u>Education Level of Father</u> (n=222) *	
Less than high school	0.5%
High school graduate	13.5%
Some college	39.2%
College graduate	14.4%
Beyond college	32.4%

Table 3-11 (Continued)

\* Unit of analysis is family

Table 3-12

Family Demographic Characteristics of High School Students whose  
Parents Answered Survey Questionnaires

	% of Sample	
<u>Sponsor's Rank</u> (n=255)		
E1-E4	0.8%	
E5-E6	26.6%	
E7-E9	36.5%	
W1-W4	4.0%	
O1-O3	6.6%	
O4 and above	25.5%	
<u>Sponsor's Type of Unit</u> (n=255)		
Combat	3.1%	
Non-combat	96.9%	
<u>Education Level of Mother</u> (n=249)		
Less than high school	5.2%	
High school graduate	32.9%	
Some college	41.4%	
College graduate	12.9%	
Graduate degree	7.6%	
<u>Education Level of Father</u> (n=249)		
Less than high school	0.4%	
High school graduate	14.5%	
Some college	39.0%	
College graduate	14.5%	
Graduate degree	31.6%	
<u>Number of Dependent Children</u> (n=256)		
1 child	13.3%	
2 children	46.5%	
3 children	18.8%	
4 or more children	21.4%	
<u>Parent on Active Duty</u> (n=253)		
Father only	94.5%	
Mother only	4.7%	
Both	0.8%	
	Yes	No
<u>Language Barriers</u>		
Is English your native language?		
(n=256)	94.9%	5.1%

Table 3-12 (Continued)

	Yes	No
Does difficulty with English stop your child from seeing the dentist? (n=256)	1.2%	98.8%

Table 4-1

## Age by Intensity of Restorative Treatment Needs for Spouses

% of Spouses

Intensity of Restorative Treatment Needs

	None	1-3 Teeth	4-6 Teeth	7 + Teeth
<u>Age</u>				
All ages (n=3562)	27.4%	38.6%	16.9%	17.2%
< 20 yrs. (n=112)	20.5%	38.4%	22.3%	18.8%
20-24 yrs. (n=734)	22.8%	39.1%	19.6%	18.5%
25-29 yrs. (n=848)	22.2%	38.3%	19.7%	19.8%
30-34 yrs. (n=862)	30.4%	38.3%	16.0%	15.3%
35-39 yrs. (n=591)	32.8%	37.8%	14.2%	15.2%
40-44 yrs. (n=281)	33.1%	41.3%	10.7%	14.9%
45-49 yrs. (n=94)	34.0%	39.4%	12.8%	13.8%
50 + yrs. (n=40)	42.5%	32.5%	2.5%	22.5%
Unknown (n=0)				

Table 4-2

## Race by Intensity of Restorative Treatment Needs for Spouses

% of Spouses

Intensity of Restorative Treatment Needs

	None	1-3 Teeth	4-6 Teeth	7 + Teeth
<u>Race</u>				
All Races (n=3562)	27.4%	38.6%	16.9%	17.2%
White (n=2313)	30.6%	40.3%	15.1%	14.0%
Black (n=675)	17.2%	30.5%	23.0%	29.3%
Hispanic (n=281)	26.7%	40.9%	17.1%	15.3%
Other (n=288)	26.4%	41.3%	17.0%	15.3%
Unknown (n=5)				

Table 4-3

## Education Level by Intensity of Restorative Treatment Needs for Spouses

<u>Education Level</u>	% of Spouses			
	<u>Intensity of Restorative Treatment Needs</u>			
	None	1-3 Teeth	4-6 Teeth	7 + Teeth
All educ. levels (n=3562)	27.4%	38.6%	16.9%	17.2%
No H.S. (n=39)	20.5%	33.3%	12.8%	33.4%
Some H.S. (n=178)	18.0%	33.7%	19.7%	28.6%
H.S. grad (n=1385)	20.4%	41.2%	18.2%	20.2%
Some college (n=1338)	29.7%	36.8%	17.8%	15.7%
College grad (n=461)	41.6%	38.2%	11.1%	9.1%
Beyond college (n=139)	41.7%	40.3%	9.4%	8.6%
Unknown (n=22)				



Table 4-4

## Rank Group by Intensity of Restorative Treatment Needs for Spouses

% of Spouses

Intensity of Restorative Treatment Needs

	None	1-3 Teeth	4-6 Teeth	7 + Teeth
<u>Rank Group</u>				
All Ranks (n=3562)	27.4%	38.6%	16.9%	17.2%
Enlisted (n=2690)	22.6%	37.6%	19.5%	20.3%
Officer (n=716)	44.0%	42.0%	8.1%	5.9%
Warrant (n=154)	33.8%	39.0%	12.3%	14.9%
E1-E4 (n=748)	18.7%	36.2%	21.3%	23.8%
E5-E6 (n=1259)	21.8%	37.5%	20.2%	20.5%
E7-E9 (n=683)	28.4%	39.4%	16.2%	16.0%
O1-O3 (n=394)	40.6%	43.7%	9.6%	6.1%
O4 + (n=322)	48.1%	40.1%	6.2%	5.6%
Unknown (n=2)				

Table 4-5

## Source of Patient by Intensity of Restorative Treatment Needs for Spouses

% of Spouses

Intensity of Restorative Treatment Needs

None    1-3 Teeth    4-6 Teeth    7 + Teeth

Source of Patient

All Patients (n=3562)	27.4%	38.6%	16.9%	17.2%
Volunteer (n=1561)	28.2%	39.7%	17.0%	15.1%
Routine (n=1556)	32.1%	38.9%	14.7%	14.3%
Sick Call (n=445)	8.1%	33.5%	24.3%	34.1%
Unknown (n=0)				

Table 4-6

Level of Dependent Dental Care at Study Site by Intensity of Restorative Treatment Needs

Level of Dependent Dental Care	% of Spouses			
	<u>Intensity of Restorative Treatment Needs</u>			
	None	1-3 Teeth	4-5 Teeth	7 + Teeth
All Levels of Care (n=3562)	27.4%	38.6%	16.9%	17.2%
Below HSC* Avg. (n=1422)	21.4%	37.2%	18.3%	23.1%
At HSC Avg. (n=801)	28.0%	39.6%	19.5%	12.9%
Above HSC Avg. (n=1339)	33.5%	39.4%	13.8%	13.3%
Unknown (n=0)				

\* HSC = Health Services Command

Table 4-7

## Age by Mix of Restorative Treatment Needs for Spouses

% of Spouses

Mix of Restorative Treatment Needs

	None	Simple	Complex
<u>Age</u>			
All ages (n=3562)	27.5%	24.6%	47.9%
< 19 yrs. (n=112)	20.5%	36.6%	42.9%
20-24 yrs. (n=734)	22.7%	28.5%	48.8%
25-29 yrs. (n=848)	22.2%	25.3%	52.5%
30-34 yrs. (n=862)	30.4%	22.6%	47.0%
35-39 yrs. (n=591)	33.0%	22.0%	45.0%
40-44 yrs. (n=281)	33.4%	22.1%	44.5%
45-49 yrs. (n=94)	34.0%	22.4%	43.6%
50 + yrs. (n=40)	42.5%	10.0%	47.5%
Unknown (n=0)			

Table 4-8

## Race by Mix of Restorative Treatment Needs for Spouses

% of Spouses

Mix of Restorative Treatment Needs

	None	Simple	Complex
<u>Race</u>			
All Races (n=3562)	27.5%	24.6%	47.9%
White (n=2313)	30.6%	26.3%	43.1%
Black (n=675)	17.2%	20.1%	62.7%
Hispanic (n=281)	26.7%	24.6%	48.7%
Other (n=288)	26.7%	21.9%	51.4%
Unknown (n=5)			

Table 4-9

## Education Level by Mix of Restorative Treatment Needs for Spouses

% of Spouses

Mix of Restorative Treatment Needs

<u>Education Level</u>	None	Simple	Complex
All educ. levels (n=3562)	27.5%	24.6%	47.9%
No H.S. (n=39)	20.5%	20.5%	59.0%
Some H.S. (n=178)	18.0%	25.8%	56.2%
H.S. grad (n=1385)	20.5%	24.5%	55.0%
Some college (n=1338)	29.7%	24.2%	46.1%
College grad (n=461)	41.9%	26.4%	31.7%
Beyond college (n=139)	41.7%	23.8%	34.5%
Unknown (n=22)			

Table 4-10

## Rank Group by Mix of Restorative Treatment Needs for Spouses

% of Spouses

Mix of Restorative Treatment Needs

<u>Rank Group</u>	None	Simple	Complex
All Ranks (n=3562)	27.5%	24.6%	47.9%
Enlisted (n=2690)	22.6%	24.0%	53.4%
Officer (n=716)	44.1%	26.4%	29.5%
Warrant (n=154)	33.8%	27.3%	38.9%
E1-E4 (n=748)	18.7%	28.1%	53.2%
E5-E6 (n=1259)	21.8%	23.5%	54.7%
E7-E9 (n=683)	28.4%	20.4%	51.2%
O1-O3 (n=394)	40.6%	29.4%	30.0%
O4 + (n=322)	48.4%	22.7%	28.9%
Unknown (n=2)			

Table 4-11

Source of Patient by Mix of Restorative Treatment Needs for Spouses

<u>Source of Patient</u>	% of Spouses		
	<u>Mix of Restorative Treatment Needs</u>		
	None	Simple	Complex
All Patients (n=3562)	27.5%	24.6%	47.9%
Volunteer (n=1561)	28.3%	25.5%	46.2%
Routine (n=1556)	32.1%	25.0%	42.9%
Sick Call (n=445)	8.1%	20.2%	71.7%
Unknown (n=0)			



Table 4-12

Level of Dependent Dental Care at Study Site by Mix of Restorative Treatment Needs for Spouses

Level of Dependent <u>Dental Care</u>	% of Spouses		
	<u>Mix of Restorative Treatment Needs</u>		
	None	Simple	Complex
All levels of care (n=3562)	27.5%	24.6%	47.9%
Below HSC* Avg. (n=1422)	21.4%	23.5%	55.1%
At HSC Avg. (n=801)	28.0%	17.8%	54.2%
Above HSC Avg. (n=1339)	33.5%	29.9%	36.6%
Unknown (n=0)			

\* HSC = Health Services Command

Table 4-13

Age by Distribution of Restorative Procedures Among Teeth in Need  
of Restorative Care for Spouses

% of Spouses

Distribution of Restorative Procedures

<u>Age</u>	1 Surf. Rest.	2 Surf. Rest.	3-5 Surf. Rest.	Cast Rest. or Fixed Pontic
All ages (n=12395)	28.1%	13.2%	8.1%	15.2%
< 19 yrs. (n=409)	53.1%	13.4%	7.3%	8.8%
20-24 yrs. (n=2609)	36.6%	15.3%	7.5%	9.3%
25-29 yrs. (n=3295)	32.0%	14.1%	7.7%	13.7%
30-34 yrs. (n=2855)	23.8%	12.8%	8.8%	19.2%
35-39 yrs. (n=1898)	19.1%	11.6%	8.2%	19.7%
40-44 yrs. (n=930)	16.2%	9.6%	10.1%	16.8%
45-49 yrs. (n=285)	16.5%	8.4%	6.0%	19.0%
50 + yrs. (n=114)	21.1%	14.0%	11.4%	23.7%
Unknown (n=0)				

Table 4-13 (Cont.)

## Age by Distribution of Restorative Procedures Among Teeth in Need of Restorative Care for Spouses

% of Spouses

Distribution of Restorative Procedures

Age	Ext. Only	Ext. & Fixed Pontic	Ext. & Remv Pontic	CD or RPD Pontic
All ages (n=12395)	13.2%	0.1%	0.9%	21.1%
< 19 yrs. (n=409)	16.9%	0%	0%	0.5%
20-24 yrs. (n=2609)	23.8%	0%	0%	7.5%
25-29 yrs. (n=3295)	16.0%	0.1%	0.4%	16.2%
30-34 yrs. (n=2855)	9.5%	0%	1.8%	24.1%
35-39 yrs. (n=1898)	5.8%	0.2%	2.0%	33.6%
40-44 yrs. (n=930)	3.0%	0.2%	0.4%	43.7%
45-49 yrs. (n=285)	3.2%	0%	3.9%	43.2%
50 + yrs. (n=114)	1.8%	0%	1.8%	26.3%
Unknown (n=0)				

Table 4-14

Race by Distribution of Restorative Procedures Among Teeth in Need of Restorative Care for Spouses

% of Spouses

Distribution of Restorative Procedures

<u>Race</u>	1 Surf. Rest.	2 Surf. Rest.	3-5 Surf. Rest.	Cast Rest. or Fixed Pontic
All races (n=3562)	28.1%	13.2%	8.2%	15.2%
White (n=2313)	29.1%	13.4%	9.3%	16.6%
Black (n=675)	26.0%	13.0%	6.7%	12.5%
Hispanic (n=231)	30.4%	14.1%	5.3%	13.6%
Other (n=288)	26.0%	11.4%	7.3%	16.2%
Unknown (n=5)				

Table 4-14 (Cont.)

Race by Distribution of Restorative Procedures Among Teeth in  
Need of Restorative Care for Spouses

% of Spouses

Distribution of Restorative Procedures

<u>Race</u>	Ext. Only	Ext. & Fixed Pontic	Ext. & Remv Pontic	CD or RPD Pontic
All races (n=3562)	13.2%	0.1%	1.0%	21.1%
White (n=2313)	11.7%	0.1%	0.6%	19.2%
Black (n=675)	14.1%	0.1%	2.0%	25.8%
Hispanic (n=281)	16.8%	0%	0.2%	19.6%
Other (n=288)	17.9%	0.1%	0.6%	20.6%
Unknown (n=5)				

Table 4-15

Education Level by Distribution of Restorative Procedures Among  
Teeth in Need of Restorative Care for Spouses

% of Spouses

Distribution of Restorative Procedures

<u>Education Level</u>	1 Surf. Rest.	2 Surf. Rest.	3-5 Surf. Rest.	Cast Rest. or Fixed Pontic
All educ. levels (n=3562)	28.2%	13.2%	8.1%	15.2%
No h.s. (n=39)	23.9%	11.1%	5.6%	12.4%
Some h.s. (n=178)	33.3%	12.9%	7.0%	9.7%
H.S. grad (n=1385)	27.8%	13.1%	7.6%	14.5%
Some college (n=1338)	27.8%	12.9%	8.7%	16.7%
College grad (n=461)	29.4%	14.3%	9.8%	18.4%
Beyond college (n=139)	23.2%	18.6%	12.4%	13.4%
Unknown (n=22)				

Table 4-15 (Cont.)

Education Level by Distribution of Restorative Procedures Among  
Teeth in Need of Restorative Care for Spouses

% of Spouses

Distribution of Restorative Procedures

<u>Education Level</u>	Ext. Only	Ext. & Fixed Pontic	Ext. & Remv Pontic	CD or RPD Pontic
All educ. levels (n=3562)	13.2%	0.1%	1.0%	21.0%
No h.s. (n=39)	7.7%	0%	2.6%	36.8%
Some h.s. (n=178)	15.6%	0%	1.3%	20.2%
H.S. grad (n=1385)	13.4%	0.1%	0.6%	22.9%
Some college (n=1338)	13.2%	0.1%	1.0%	19.7%
College grad (n=461)	12.6%	0.1%	2.3%	13.1%
Beyond college (n=139)	11.1%	0%	0.3%	20.9%
Unknown (n=22)				

Table 4-16

Rank Group by Distribution of Restorative Procedures Among Teeth  
in Need of Restorative Care for Spouses

% of Spouses

Distribution of Restorative Procedures

<u>Rank Group</u>	1 Surf. Rest	2 Surf. Rest	3-5 Surf. Rest	Cast Rest. or Fixed Pontic
All Ranks (n=12394)	28.1%	13.2%	8.1%	15.2%
Enlisted (n=10713)	28.4%	13.0%	7.8%	14.2%
Officer (n=1219)	28.0%	15.9%	11.3%	21.6%
Warrant (n=462)	21.9%	11.3%	9.1%	21.7%
E1-E4 (n=3207)	34.9%	14.8%	7.0%	9.7%
E5-E6 (n=5108)	28.3%	13.2%	8.2%	15.1%
E7-E9 (n=2398)	19.9%	10.0%	7.7%	18.3%
O1-O3 (n=728)	31.9%	13.2%	10.2%	18.3%
O4 + (n=491)	22.2%	20.0%	13.0%	26.5%
Unknown (n=1)				



Table 4-16 (Cont.)

Rank Group by Distribution of Restorative Procedures Among Teeth  
in Need of Restorative Care for Spouses

% of Spouses

Distribution of Restorative Procedures

<u>Rank Group</u>	Ext. Only	Ext. & Fixed Pontic	Ext. & Remv Pontic	CD or RPD Pontic
All Ranks (n=12394)	13.2%	0.1%	0.9%	21.1%
Enlisted (n=10713)	13.7%	0.1%	1.0%	21.9%
Officer (n=1219)	12.1%	0.3%	0.1%	10.8%
Warrant (n=462)	5.6%	0%	1.5%	29.0%
E1-E4 (n=3207)	20.7%	0.1%	0.1%	12.7%
E5-E6 (n=5108)	12.4%	0%	1.6%	21.1%
E7-E9 (n=2398)	7.0%	0%	1.0%	36.0%
O1-O3 (n=728)	15.2%	0.3%	0%	11.0%
O4 + (n=491)	7.3%	0.2%	0.2%	10.6%
Unknown (n=1)				

Table 4-17

Source of Patient by Distribution of Restorative Procedures Among  
Teeth in Need of Restorative Care of Spouses

% of Spouses

Distribution of Restorative Procedures

<u>Source of Patient</u>	1 Surf. Rest	2 Surf. Rest	3-5 Surf. Rest	Cast Rest. or Fixed Pontic
All Patients (n=12395)	28.1%	13.2%	8.1%	15.2%
Volunteer (n=5070)	27.5%	12.7%	7.2%	17.3%
Routine (n=4683)	31.0%	13.1%	7.8%	13.7%
Sick Call (n=2642)	24.2%	14.4%	10.6%	13.9%
Unknown (n=0)				

Table 4-17 (Cont.)

Source of Patient by Distribution of Restorative Procedures Among  
Teeth in Need of Restorative Care for Spouses

% of Spouses

Distribution of Restorative Procedures

<u>Source of Patient</u>	Ext. Only	Ext. & Fixed Pontic	Ext. & Remv Pontic	CD or RPD Pontic
All Patients (n=12395)	13.2%	0.1%	0.9%	21.1%
Volunteer (n=5070)	12.3%	0.1%	0.7%	22.2%
Routine (n=4683)	14.0%	0%	0.9%	19.6%
Sick Call (n=2642)	13.7%	0%	1.6%	21.6%
Unknown (n=0)				

Table 4-18

Level of Dependent Dental Care at Study Site by Distribution of Restorative Procedures Among Teeth in Need of Restorative Care for Spouses

% of Spouses

Distribution of Restorative Procedures

	1 Surf. Rest	2 Surf. Rest	3-5 Surf. Rest	Cast Rest. or Fixed Pontic
<u>Level of Dependent Dental Care</u>				
All Levels of Care (n=12395)	28.1%	13.2%	8.1%	15.2%
Below HSC* Avg. (n=6077)	26.3%	13.7%	7.8%	15.3%
At HSC Avg. (n=2442)	27.0%	11.1%	8.6%	21.1%
Above HSC Avg. (n=3876)	31.6%	13.8%	8.4%	11.4%
Unknown (n=0)				

\* HSC = Health Services Command

Table 4-18 (Cont.)

Level of Dependent Dental Care at Study Site by Distribution of Restorative Procedures Among Teeth in Need of Restorative Care for Spouses

% of Spouses

Distribution of Restorative Procedures

	Ext. Only	Ext. & Fixed Pontic	Ext. & Remu Pontic	CD or RPD Pontic
<u>Level of Dependent Dental Care</u>				
All Levels of Care (n=12395)	13.2%	0.1%	0.9%	21.1%
Below HSC Avg. (n=6077)	12.7%	0.1%	1.5%	22.6%
At HSC Avg. (n=2442)	14.7%	0%	0%	17.4%
Above HSC Avg. (n=3876)	13.1%	0%	0.6%	21.1%
Unknown (n=0)				

\* HSC = Health Services Command

Table 4-19

Age by Severity of Restorative Treatment Needs for Spouses  
 % of Spouses

Severity of Restorative Treatment Needs

	None	Routine	Emergent
<u>Age</u>			
All ages (n=3562)	27.5%	62.2%	10.4%
< 19 yrs. (n=112)	20.5%	68.8%	10.7%
20-24 yrs. (n=734)	22.8%	62.1%	15.1%
25-29 yrs. (n=848)	22.2%	65.2%	12.6%
30-34 yrs. (n=862)	30.4%	60.1%	9.5%
35-39 yrs. (n=591)	33.0%	60.4%	6.6%
40-44 yrs. (n=281)	33.4%	62.3%	4.3%
45-49 yrs. (n=94)	34.0%	59.6%	6.4%
50 + yrs. (n=40)	42.5%	57.5%	0%
Unknown (n=0)			

Table 4-20

## Race by Severity of Restorative Treatment Needs for Spouses

% of Spouses

Severity of Restorative Treatment Needs

	None	Routine	Emergent
<u>Race</u>			
All Races (n=3562)	27.5%	62.2%	10.4%
White (n=2313)	30.7%	60.0%	9.3%
Black (n=675)	17.2%	68.1%	14.7%
Hispanic (n=281)	26.7%	64.1%	9.2%
Other (n=288)	26.8%	63.5%	9.7%
Unknown (n=5)			

Table 4-21

## Education Level by Severity of Restorative Treatment Needs for Spouses

<u>Education Level</u>	% of Spouses		
	<u>Severity of Restorative Treatment Needs</u>		
	None	Routine	Emergent
All educ. levels (n=3562)	27.5%	62.2%	10.4%
No H.S. (n=39)	20.5%	66.7%	12.8%
Some H.S. (n=178)	18.0%	65.7%	16.3%
H.S. grad (n=1385)	20.5%	68.3%	11.2%
Some college (n=1338)	29.7%	60.1%	10.2%
College grad (n=461)	41.9%	51.4%	6.7%
Beyond college (n=139)	41.7%	51.1%	7.2%
Unknown (n=22)			



Table 4-22

Rank Group by Severity of Restorative Treatment Needs for Spouses  
 % of Spouses

Severity of Restorative Treatment Needs

<u>Rank Group</u>	None	Routine	Emergent
All Races (n=3562)	27.5%	62.2%	10.4%
Enlisted (n=2690)	22.7%	65.4%	11.9%
Officer (n=716)	44.1%	49.9%	6.0%
Warrant (n=154)	33.8%	63.0%	3.2%
E1-E4 (n=748)	18.7%	66.2%	15.1%
E5-E6 (n=1259)	21.8%	66.0%	12.2%
E7-E9 (n=683)	28.4%	63.5%	8.1%
O1-O3 (n=394)	40.6%	51.8%	7.6%
O4 + (n=322)	48.5%	47.5%	4.0%
Unknown (n=2)			

Table 4-23

Source of Patient by Severity of Restorative Treatment Needs for Spouses

<u>Source of Patient</u>	% of Spouses		
	<u>Severity of Restorative Treatment Needs</u>		
	None	Routine	Emergent
All Patients (n=3562)	27.5%	62.2%	10.4%
Volunteer (n=1561)	28.3%	62.1%	9.6%
Routine (n=1556)	32.1%	60.8%	7.1%
Sick Call (n=445)	8.1%	67.4%	24.5%
Unknown (n=0)			

Table 4-24

Level of Dependent Dental Care at Study Site by Severity of Restorative Treatment Needs for Spouses

<u>Level of Dependent Dental Care</u>	% of Spouses		
	<u>Severity of Restorative Treatment Needs</u>		
	None	Routine	Emergent
All Levels of Care (n=3562)	27.5%	62.2%	10.4%
Below HSC* Avg. (n=1422)	21.5%	68.1%	10.4%
At HSC Avg. (n=801)	28.0%	58.7%	13.3%
Above HSC Avg. (n=1339)	33.5%	58.0%	8.5%
Unknown (n=0)			

\* HSC = Health Services Command

Table 4-25

## Age by Need for Removable Partial Dentures for Spouses

% of Spouses Needing

<u>Age</u>	Max. RPD Only	Mand. RPD Only	Max. & Mand. RPD	Any RPD
All ages (n=3562)	1.9%	4.6%	2.6%	9.1%
< 19 yrs. (n=112)	0.9%	0%	0%	0.9%
20-24 yrs. (n=734)	1.2%	1.8%	1.8%	4.1%
25-29 yrs. (n=848)	2.0%	4.1%	2.6%	8.7%
30-34 yrs. (n=862)	2.4%	5.9%	2.4%	10.7%
35-39 yrs. (n=591)	2.2%	5.6%	4.2%	12.0%
40-44 yrs. (n=281)	1.1%	8.2%	4.3%	13.6%
45-49 yrs. (n=94)	4.3%	6.4%	3.2%	13.9%
50 + yrs. (n=40)	2.5%	7.5%	5.0%	15.0%
Unknown (n=0)				

Table 4-26

## Race by Need for Removable Partial Dentures for Spouses

% of Spouses Needing

<u>Race</u>	Max. RPD Only	Mand. RPD Only	Max. & Mand. RPD	Any RPD
All Races (n=3562)	1.9%	4.6%	2.6%	9.1%
White (n=2313)	1.2%	3.2%	1.9%	6.3%
Black (n=675)	4.3%	9.5%	5.0%	18.8%
Hispanic (n=281)	2.9%	5.3%	2.1%	10.3%
Other (n=288)	1.4%	4.2%	3.5%	9.1%
Unknown (n=5)				

Table 4-27

## Education Level by Need for Removable Partial Dentures for Spouses

% of Spouses Needing

<u>Education Level</u>	Max. RPD Only	Mand. RPD Only	Max. & Mand. RPD	Any RPD
All educ. levels (n=3562)	1.9%	4.6%	2.6%	9.1%
No H.S. (n=39)	7.7%	5.1%	5.1%	17.9%
Some H.S. (n=178)	1.7%	8.4%	2.8%	12.9%
H.S. grad (n=1385)	2.4%	5.2%	3.4%	11.0%
Some college (n=1338)	1.5%	4.6%	2.4%	8.5%
College grad (n=461)	2.0%	1.7%	0.9%	4.6%
Beyond college (n=139)	0.7%	2.2%	1.4%	4.3%
Unknown (n=22)				

Table 4-28

## Rank Group by Need for Removable Partial Dentures for Spouses

% of Spouses Needing

<u>Rank Group</u>	Max. RPD Only	Mand. RPD Only	Max. & Mand. RPD	Any RPD
All Ranks (n=3562)	1.9%	4.6%	2.6%	9.1%
Enlisted (n=2690)	2.3%	5.6%	3.1%	11.0%
Officer (n=716)	0.7%	1.1%	0.4%	2.2%
Warrant (n=154)	1.3%	3.9%	4.6%	9.8%
E1-E4 (n=748)	2.3%	3.1%	1.9%	7.3%
E5-E6 (n=1259)	1.9%	6.4%	3.0%	11.3%
E7-E9 (n=683)	3.1%	6.7%	4.5%	14.3%
O1-O3 (n=394)	1.0%	0%	0.3%	1.3%
O4 + (n=322)	0.3%	2.5%	0.6%	3.4%
Unknown (n=2)				

Table 4-29

## Source of Patient by Need for Removable Partial Dentures for Spouses

% of Spouses Needing

<u>Source of Patient</u>	Max. RPD Only	Mand. RPD Only	Max. & Mand. RPD	Any RPD
All Patients (n=3562)	1.9%	4.6%	2.6%	9.1%
Volunteer (n=1561)	1.7%	4.5%	2.5%	8.7%
Routine (n=1556)	2.0%	4.2%	2.3%	8.5%
Sick Call (n=445)	2.7%	6.3%	4.0%	13.0%
Unknown (n=0)				



Table 4-30

Level of Dependent Dental Care at Study Site by Need for  
Removable Partial Dentures for Spouses

% of Spouses Needing

	Max. RPD Only	Mand. RPD Only	Max. & Mand. RPD	Any RPD
Level of Dependent <u>Dental Care</u>				
All Levels of Care (n=3562)	1.9%	4.6%	2.6%	9.1%
Below HSC* Avg. (n=1422)	2.0%	6.3%	3.2%	11.5%
At HSC Avg. (n=801)	2.5%	4.0%	1.5%	8.0%
Above HSC Avg. (n=1339)	1.6%	3.1%	2.7%	7.4%
Unknown (n=0)				

\* HSC = Health Services Command

Table 4-31

## Age by Need for Complete Dentures for Spouses

% of Spouses Needing

<u>Age</u>	Max. CD Only	Mand. CD Only	Max. & Mand. CD	Any CD
All ages (n=3562)	0.7%	0%	0.5%	1.2%
< 19 yrs. (n=112)	0%	0%	0%	0%
20-24 yrs. (n=734)	0.3%	0%	0%	0.3%
25-29 yrs. (n=848)	0.5%	0%	0.4%	0.9%
30-34 yrs. (n=862)	0.7%	0%	0.6%	1.3%
35-39 yrs. (n=591)	1.0%	0%	0.9%	1.9%
40-44 yrs. (n=281)	1.8%	0%	1.4%	3.2%
45-49 yrs. (n=94)	3.2%	0%	1.1%	4.3%
50 + yrs. (n=40)	0%	0%	0%	0%
Unknown (n=0)				

Table 4-32

## Race by Need for Complete Dentures for Spouses

% of Spouses Needing

<u>Race</u>	Max. CD Only	Mand. CD Only	Max. & Mand. CD	Any CD
All Races (n=3562)	0.7%	0%	0.5%	1.2%
White (n=2313)	0.7%	0%	0.6%	1.3%
Black (n=675)	1.2%	0%	0.3%	1.5%
Hispanic (n=281)	0.4%	0%	0.4%	0.8%
Other (n=288)	0.4%	0%	0.4%	0.8%
Unknown (n=5)				

Table 4-33

## Education Level by Need for Complete Dentures for Spouses

% of Spouses Needing

<u>Education Level</u>	Max. CD Only	Mand. CD Only	Max. & Mand. CD	Any CD
All educ. levels (n=3562)	0.7%	0%	0.5%	1.2%
No H.S. (n=39)	2.6%	0%	2.6%	5.2%
Some H.S. (n=178)	1.1%	0%	0%	1.1%
H.S. grad (n=1385)	0.9%	0%	0.6%	1.5%
Some college (n=1338)	0.6%	0%	0.7%	1.3%
College grad (n=461)	0.2%	0%	0.2%	0.4%
Beyond college (n=139)	0.7%	0%	0%	0.7%
Unknown (n=22)				

Table 4-34

## Rank Group by Need for Complete Dentures for Spouses

% of Spouses Needing

<u>Rank Group</u>	Max. CD Only	Mand. CD Only	Max. & Mand. CD	Any CD
All Ranks (n=3562)	0.7%	0%	0.5%	1.2%
Enlisted (n=2690)	0.9%	0%	0.6%	1.5%
Officer (n=716)	0%	0%	0.3%	0.3%
Warrant (n=154)	1.3%	0%	0.6%	1.9%
E1-E4 (n=748)	0.4%	0%	0.3%	0.7%
E5-E6 (n=1259)	1.0%	0%	0.5%	1.5%
E7-E9 (n=683)	1.2%	0%	1.0%	2.2%
O1-O3 (n=394)	0%	0%	0.3%	0.3%
O4 + (n=322)	0%	0%	0.3%	0.3%
Unknown (n=2)				

Table 4-35

## Source of Patient by Need for Complete Dentures for Spouses

% of Spouses Needing

<u>Source of Patient</u>	Max. CD Only	Mand. CD Only	Max. & Mand. CD	Any CD
All Patients (n=3562)	0.7%	0%	0.5%	1.2%
Volunteer (n=1561)	0.6%	0%	0.7%	1.3%
Routine (n=1556)	0.4%	0%	0.3%	0.7%
Sick Call (n=445)	2.2%	0%	0.7%	2.9%
Unknown (n=0)				

Table 4-36

Level of Dependent Dental Care at Study Site by Need for Complete Dentures for Spouses

Level of Dependent <u>Dental Care</u>	<u>% of Spouses Needing</u>			
	Max. CD Only	Mand. CD Only	Max. & Mand. CD	Any CD
All Levels of Care (n=3562)	0.7%	0%	0.5%	1.2%
Below HSC* Avg. (n=1422)	1.2%	0%	0.8%	2.0%
At HSC Avg. (n=801)	0.4%	0%	0.1%	0.5%
Above HSC Avg. (n=1339)	0.5%	0%	0.5%	1.0%
Unknown (n=0)				

\* HSC = Health Services Command

Table 4-37

Age by Prevalence of Acute Necrotizing Ulcerative Gingivitis  
(ANUG) for Spouses% of Spouses  
with ANUGAge

All ages (n=3562)	1.1%
< 19 yrs. (n=112)	3.6%
20-24 yrs. (n=734)	0.5%
25-29 yrs. (n=848)	1.5%
30-34 yrs. (n=862)	1.0%
35-39 yrs. (n=591)	1.2%
40-44 yrs. (n=281)	1.1%
45-49 yrs. (n=94)	0%
50 + yrs. (n=40)	0%
Unknown (n=0)	



Table 4-38

Race by Prevalence of Acute Necrotizing Ulcerative Gingivitis  
(ANUG) for Spouses

Race	% of Spouses with ANUG
All Races (n=3562)	1.1%
White (n=2313)	1.4%
Black (n=675)	0.7%
Hispanic (n=281)	0.4%
Other (n=288)	0.4%
Unknown (n=5)	

Table 4-39

Education Level by Prevalence of Acute Necrotizing Ulcerative  
Gingivitis (ANUG) for Spouses

% of Spouses  
with ANUG

Education  
Level

All educ. levels (n=3562)	1.1%
No H.S. (n=39)	2.6%
Some H.S. (n=178)	2.3%
H.S. grad (n=1385)	1.2%
Some college (1338)	1.2%
College grad (n=461)	0.7%
Beyond college (n=139)	0%
Unknown (n=22)	

Table 4-40

Rank Group by Prevalence of Acute Necrotizing Ulcerative  
Gingivitis (ANUG) for Spouses% of Spouses  
with ANUGRank Group

All Ranks (n=3562)	1.1%
Enlisted (n=2690)	1.5%
Officer (n=716)	0.1%
Warrant (n=154)	0%
E1-E4 (n=748)	1.5%
E5-E6 (n=1259)	1.8%
E7-E9 (n=683)	0.7%
O1-O3 (n=394)	0%
O4 + (n=322)	0.3%
Unknown (n=2)	

Table 4-41

Source of Patient by Prevalence of Acute Necrotizing Ulcerative  
Gingivitis (ANUG) for Spouses

% of Spouses  
with ANUG

Source of  
Patient

All Patients (n=3562)	1.1%
Volunteer (n=1561)	0.6%
Routine (n=1556)	1.0%
Sick Call (n=445)	3.6%
Unknown (n=0)	

Table 4-42

Age by Intensity of Periondontal Scaling Needs for Spouses  
 % of Spouses

Intensity of Periondontal Scaling Needs

	None	1-2 Sext.	3-4 Sext.	5-6 Sext.
<u>Age</u>				
All ages (n=3562)	76.4%	11.3%	4.9%	7.4%
< 19 yrs. (n=112)	77.7%	9.8%	2.7%	9.8%
20-24 yrs. (n=734)	81.7%	9.4%	3.7%	5.2%
25-29 yrs. (n=848)	75.2%	11.1%	6.1%	7.6%
30-34 yrs. (n=862)	73.9%	12.7%	5.4%	8.0%
35-39 yrs. (n=591)	76.7%	11.7%	4.2%	7.4%
40-44 yrs. (n=281)	74.4%	12.4%	4.6%	8.6%
45-49 yrs. (n=94)	75.6%	10.6%	8.5%	5.3%
50 + yrs. (n=40)	70.0%	12.5%	0%	17.5%
Unknown (n=0)				

Table 4-43

Race by Intensity of Periondontal Scaling Needs for Spouses

% of Spouses

Intensity of Periondontal Scaling Needs

None    1-2 Sext.    3-4 Sext.    5-6 Sext.

Race

All Races (n=3562)	76.4%	11.3%	4.9%	7.4%
White (n=2313)	80.2%	10.3%	3.8%	5.7%
Black (n=675)	67.8%	14.8%	8.2%	9.2%
Hispanic (n=281)	75.1%	10.7%	4.6%	9.6%
Other (n=288)	67.4%	11.8%	6.6%	14.2%
Unknown (n=5)				

Table 4-44

## Education Level by Intensity of Periondontal Scaling Needs for Spouses

<u>Education Level</u>	% of Spouses			
	<u>Intensity of Periondontal Scaling Needs</u>			
	None	1-2 Sext.	3-4 Sext.	5-6 Sext.
All educ. levels (n=3562)	76.4%	11.3%	4.9%	7.4%
No H.S. (n=39)	51.3%	15.4%	20.5%	12.8%
Some H.S. (n=178)	65.2%	15.2%	6.7%	12.9%
H.S. grad (n=1385)	72.3%	13.0%	5.8%	8.9%
Some college (n=1338)	79.5%	10.2%	4.0%	6.3%
College grad (n=461)	84.6%	8.2%	2.8%	4.4%
Beyond college (n=139)	82.7%	8.6%	3.6%	5.1%
Unknown (n=22)				

Table 4-45

## Rank Group by Intensity of Periondontal Scaling Needs for Spouses

% of Spouses

Intensity of Periondontal Scaling Needs

	None	1-2 Sext.	3-4 Sext.	5-6 Sext.
<u>Rank Group</u>				
All Ranks (n=3562)	76.4%	11.3%	4.9%	7.4%
Enlisted (n=2690)	73.6%	12.3%	5.6%	8.5%
Officer (n=716)	87.3%	6.7%	2.7%	3.3%
Warrant (n=154)	75.3%	15.6%	3.3%	5.8%
E1-E4 (n=748)	74.9%	12.1%	4.0%	9.0%
E5-E6 (n=1259)	72.7%	11.8%	6.8%	8.7%
E7-E9 (n=683)	73.9%	13.2%	5.3%	7.6%
O1-O3 (n=394)	89.6%	6.4%	2.0%	2.0%
O4 + (n=322)	84.5%	7.1%	3.4%	5.0%
Unknown (n=2)				



Table 4-46

Source of Patient by Intensity of Periondontal Scaling Needs for Spouses

<u>Source of Patient</u>	% of Spouses			
	<u>Intensity of Periondontal Scaling Needs</u>			
	None	1-2 Sext.	3-4 Sext.	5-6 Sext.
All Patients (n=3562)	76.4%	11.3%	4.9%	7.4%
Volunteer (n=1561)	76.2%	11.9%	4.7%	7.2%
Routine (n=1556)	78.3%	10.6%	5.3%	5.8%
Sick Call (n=445)	70.6%	11.7%	4.2%	13.5%
Unknown (n=0)				

Table 4-47

Level of Dependent Dental Care at Study Site by Intensity of  
Periondontal Scaling Needs

Level of Dependent Dental Care	% of Spouses			
	<u>Intensity of Periondontal Scaling Needs</u>			
	None	1-2 Sext.	3-4 Sext.	5-6 Sext.
All Levels of Care (n=3562)	76.4%	11.3%	4.9%	7.4%
Below HSC* Avg. (n=1422)	70.2%	12.8%	5.8%	11.2%
At HSC Avg. (n=801)	80.8%	11.1%	4.6%	3.5%
Above HSC Avg. (n=1339)	80.5%	9.8%	4.2%	5.5%
Unknown (n=0)				

\* HSC = Health Services Command

Table 4-48

## Age by Intensity of Periondontal Surgery Needs for Spouses

% of Spouses

Intensity of Periondontal Surgery Needs

	None	1-2 Sext.	3-4 Sext.	5-6 Sext.
<u>Age</u>				
All ages (n=3562)	92.1%	5.3%	1.3%	1.3%
< 19 yrs. (n=112)	94.6%	5.4%	0%	0%
20-24 yrs. (n=734)	95.1%	4.3%	0.3%	0.3%
25-29 yrs. (n=848)	93.3%	4.7%	1.3%	0.7%
30-34 yrs. (n=862)	90.0%	6.5%	1.9%	1.6%
35-39 yrs. (n=591)	90.7%	5.8%	1.2%	2.3%
40-44 yrs. (n=281)	90.0%	6.1%	2.5%	1.4%
45-49 yrs. (n=94)	93.6%	4.3%	2.1%	0%
50 + yrs. (n=40)	85.0%	2.5%	2.5%	10.0%
Unknown (n=0)				

Table 4-49

## Race by Intensity of Periodontal Surgery Needs for Spouses

% of Spouses

Intensity of Periodontal Surgery Needs

	None	1-2 Sext.	3-4 Sext.	5-6 Sext.
<u>Race</u>				
All Races (n=3562)	92.1%	5.3%	1.3%	1.3%
White (n=2313)	93.8%	4.3%	0.9%	1.0%
Black (n=675)	89.3%	7.1%	2.4%	1.2%
Hispanic (n=281)	90.4%	6.8%	1.0%	1.8%
Other (n=288)	87.2%	8.3%	1.7%	2.8%
Unknown (n=5)				

Table 4-50

## Education Level by Intensity of Periondontal Surgery Needs for Spouses

<u>Education Level</u>	% of Spouses			
	<u>Intensity of Periondontal Surgery Needs</u>			
	None	1-2 Sext.	3-4 Sext.	5-6 Sext.
All educ. levels (n=3562)	92.1%	5.3%	1.3%	1.3%
No H.S. (n=39)	82.1%	18.0%	0%	0%
Some H.S. (n=178)	91.6%	5.6%	1.1%	1.7%
H.S. grad (n=1385)	90.2%	6.6%	1.5%	1.7%
Some college (n=1338)	92.8%	4.8%	1.3%	1.1%
College grad (n=461)	95.9%	2.6%	1.1%	0.4%
Beyond college (n=139)	96.4%	2.9%	0%	0.7%
Unknown (n=22)				

Table 4-51

## Rank Group by Intensity of Periondontal Surgery Needs for Spouses

% of Spouses

Intensity of Periondontal Surgery Needs

	None	1-2 Sext.	3-4 Sext.	5-6 Sext.
<u>Rank Group</u>				
All Ranks (n=3562)	92.1%	5.3%	1.3%	1.3%
Enlisted (n=2690)	91.0%	6.2%	1.5%	1.3%
Officer (n=716)	96.4%	2.0%	0.5%	1.1%
Warrant (n=154)	91.6%	6.5%	1.9%	0%
E1-E4 (n=748)	93.3%	5.2%	0.8%	0.7%
E5-E6 (n=1259)	91.1%	6.1%	1.5%	1.3%
E7-E9 (n=683)	88.4%	7.3%	2.1%	2.2%
O1-O3 (n=394)	97.2%	2.0%	0.3%	0.5%
O4 + (n=322)	95.3%	1.9%	0.9%	0.9%
unknown (n=2)				

Table 4-52

Source of Patient by Intensity of Periondontal Surgery Needs for Spouses

<u>Source of Patient</u>	% of Spouses			
	<u>Intensity of Periondontal Surgery Needs</u>			
	None	1-2 Sext.	3-4 Sext.	5-6 Sext.
All Patients (n=3562)	92.1%	5.3%	1.3%	1.3%
Volunteer (n=1561)	91.5%	5.5%	2.0%	1.0%
Routine (n=1556)	94.1%	4.0%	0.8%	1.1%
Sick Call (n=445)	87.2%	9.4%	0.7%	2.7%
Unknown (n=0)				

Table 4-53

Level of Dependent Dental Care at Study Site by Intensity of  
Periosteal Surgery Needs for Spouses

Level of Dependent <u>Dental Care</u>	% of Spouses			
	<u>Intensity of Periosteal Surgery Needs</u>			
	None	1-2 Sext.	3-4 Sext.	5-6 Sext.
All Levels of Care (n=3562)	92.1%	5.3%	1.3%	1.3%
Below HSC* Avg. (n=1422)	91.7%	5.5%	1.1%	1.7%
At HSC Avg. (n=801)	92.4%	5.7%	1.0%	0.9%
Above HSC Avg. (n=1339)	92.5%	4.9%	1.6%	1.0%
Unknown (n=0)				

\* HSC = Health Services Command



Table 4-54

## Age by Intensity of all Periondontal Treatment Needs for Spouses

% of Spouses

Intensity of all Periondontal Treatment Needs

	None	1-2 Sext.	3-4 Sext.	5-6 Sext.
<u>Age</u>				
All ages (n=3562)	75.1%	12.0%	5.4%	7.4%
< 19 yrs. (n=112)	77.7%	9.8%	2.7%	9.8%
20-24 yrs. (n=734)	80.6%	10.5%	3.7%	5.2%
25-29 yrs. (n=848)	74.7%	11.4%	6.2%	7.7%
30-34 yrs. (n=862)	71.8%	13.9%	6.2%	8.1%
35-39 yrs. (n=591)	74.8%	12.4%	5.2%	7.6%
40-44 yrs. (n=281)	73.0%	13.5%	5.0%	8.5%
45-49 yrs. (n=94)	74.5%	9.6%	10.6%	5.3%
50 + yrs. (n=40)	70.0%	12.5%	0%	17.5%
Unknown (n=0)				

Table 4-55

Race by Intensity of all Periondontal Treatment Needs for Spouses  
% of Spouses

Intensity of all Periondontal Treatment Needs

	None	1-2 Sext.	3-4 Sext.	5-6 Sext.
<u>Race</u>				
All Races (n=3562)	75.1%	12.0%	5.4%	7.4%
White (n=2313)	78.8%	11.2%	4.2%	5.8%
Black (n=675)	67.0%	15.5%	8.3%	9.2%
Hispanic (n=281)	73.7%	11.7%	5.0%	9.6%
Other (n=288)	66.0%	11.8%	7.6%	14.6%
Unknown (n=5)				

Table 4-56

Education Level by Intensity of all Periondontal Treatment Needs  
for Spouses

% of Spouses

Intensity of all Periondontal Treatment Needs

	None	1-2 Sext.	3-4 Sext.	5-6 Sext.
<u>Education Level</u>				
All educ. levels (n=3562)	75.1%	12.0%	5.4%	7.4%
No H.S. (n=39)	51.3%	15.4%	20.5%	12.8%
Some H.S. (n=178)	63.5%	15.2%	8.4%	12.9%
H.S. grad (n=1385)	71.3%	13.8%	5.9%	9.0%
Some college (n=1338)	77.7%	11.1%	4.8%	6.4%
College grad (n=461)	83.3%	9.6%	2.8%	4.3%
Beyond college (n=39)	82.0%	8.7%	4.3%	5.0%
Unknown (n=22)				

Table 4-57

## Rank Group by Intensity of all Periondontal Treatment Needs for Spouses

% of Spouses

Intensity of all Periondontal Treatment Needs

	None	1-2 Sext.	3-4 Sext.	5-6 Sext.
<u>Rank Group</u>				
All Ranks (n=3562)	75.1%	12.0%	5.4%	7.4%
Enlisted (n=2690)	72.2%	13.2%	6.0%	8.6%
Officer (n=716)	86.4%	7.1%	3.1%	3.4%
Warrant (n=154)	73.4%	14.9%	5.9%	5.8%
E1-E4 (n=748)	73.7%	13.2%	4.1%	9.0%
E5-E6 (n=1259)	71.2%	12.8%	7.2%	8.8%
E7-E9 (n=683)	72.3%	14.1%	5.7%	7.9%
O1-O3 (n=394)	88.8%	6.9%	2.3%	2.0%
O4 + (n=322)	83.5%	7.5%	4.0%	5.0%
Unknown (n=2)				

Table 4-58

Source of Patient by Intensity of all Periodontal Treatment Needs  
for Spouses

<u>Source of Patient</u>	% of Spouses			
	<u>Intensity of all Periondontal Treatment Needs</u>			
	None	1-2 Sext.	3-4 Sext.	5-6 Sext.
All Patients (n=3562)	75.1%	12.0%	5.4%	7.4%
Volunteer (n=1561)	74.4%	12.9%	5.5%	7.2%
Routine (n=1556)	77.5%	11.2%	5.5%	5.8%
Sick Call (n=445)	69.4%	12.1%	4.7%	13.7%
Unknown (n=0)				

Table 4-59

Level of Dependent Dental Care at Study Site by Intensity of all  
Periosteal Treatment Needs for Spouses

Level of Dependent Dental Care	% of Spouses			
	<u>Intensity of all Periosteal Treatment Needs</u>			
	None	1-2 Sext.	3-4 Sext.	5-6 Sext.
All Levels of Care (n=3562)	75.1%	12.0%	5.4%	7.4%
Below HSC* Avg. (n=1422)	69.0%	13.4%	6.2%	11.4%
At HSC Avg. (n=801)	79.6%	12.0%	4.9%	3.5%
Above HSC Avg. (n=1339)	78.9%	10.7%	4.8%	5.6%
Unknown (n=0)				

\* HSC = Health Services Command

Table 4-60

Age by Severity of all Periondontal Treatment Needs for Spouses

% of Spouses

Severity of all Periondontal Treatment Needs

	None	Routine	Emergent
All ages (n=3562)	74.8%	19.0%	6.2%
< 19 yrs. (n=112)	77.7%	16.1%	6.2%
20-24 yrs. (n=734)	80.3%	15.5%	4.2%
25-29 yrs. (n=848)	74.1%	18.9%	7.0%
30-34 yrs. (n=862)	71.5%	21.1%	7.4%
35-39 yrs. (n=591)	74.6%	18.4%	7.0%
40-44 yrs. (n=281)	73.0%	21.7%	5.3%
45-49 yrs. (n=94)	74.5%	22.3%	3.2%
50 + yrs. (n=40)	70.0%	27.5%	2.5%
Unknown (n=0)			

Table 4-61

## Race by Severity of all Periondontal Treatment Needs for Spouses

% of Spouses

Severity of all Periondontal Treatment Needs

	None	Routine	Emergent
<u>Race</u>			
All Races (n=3562)	74.8%	19.0%	6.2%
White (n=2313)	78.5%	16.4%	5.1%
Black (n=675)	66.7%	24.3%	9.0%
Hispanic (n=281)	73.3%	19.9%	6.8%
Other (n=288)	66.0%	26.7%	7.3%
Unknown (n=5)			



Table 4-62

Education Level by Severity of all Periondontal Treatment Needs  
for Spouses

	% of Spouses		
	<u>Severity of all Periondontal Treatment Needs</u>		
	None	Routine	Emergent
<u>Education Level</u>			
All educ. levels (n=3562)	74.8%	19.0%	6.2%
No H.S. (n=39)	51.1%	35.9%	12.8%
Some H.S. (n=178)	62.9%	27.5%	9.6%
H.S. grad (n=1385)	70.7%	21.4%	7.9%
Some college (n=1338)	77.7%	17.1%	5.2%
College grad (n=461)	83.1%	14.1%	2.8%
Beyond college (n=139)	82.0%	14.4%	3.6%
Unknown (n=22)			

Table 4-63

## Rank Group by Severity of all Periondontal Treatment Needs for Spouses

<u>Rank Group</u>	% of Spouses		
	<u>Severity of all Periondontal Treatment Needs</u>		
	None	Routine	Emergent
All Ranks (n=3562)	74.8%	19.0%	6.2%
Enlisted (n=2690)	71.8%	21.0%	7.2%
Officer (n=716)	86.5%	10.6%	2.9%
Warrant (n=154)	73.4%	22.1%	4.5%
E1-E4 (n=748)	73.4%	20.6%	6.0%
E5-E6 (n=1259)	70.6%	21.8%	7.6%
E7-E9 (n=683)	72.2%	20.2%	7.6%
O1-O3 (n=394)	88.8%	8.6%	2.6%
O4 + (n=322)	83.5%	13.1%	3.4%
Unknown (n=2)			

Table 4-64

Source of Patient by Severity of all Periondontal Treatment Needs  
for Spouses

<u>Source of Patient</u>	% of Spouses		
	<u>Severity of all Periondontal Treatment Needs</u>		
	None	Routine	Emergent
All Patients (n=3562)	74.8%	19.0%	6.2%
Volunteer (n=1561)	73.9%	18.7%	7.4%
Routine (n=1556)	77.4%	19.3%	3.3%
Sick Call (n=445)	69.0%	18.6%	12.4%
Unknown (n=0)			

Table 4-65

Level of Dependent Dental Care at Study Site by Orthodontic  
Treatment Priority Index Score for Spouses

% of Spouses

Orthodontic Treatment Priority Index Score

	Normal/Minor	Elective	Severe/Handicapping
Level of Dependent <u>Dental Care</u>			
All Levels of Care (n=3464)	49.1%	28.9%	21.9%
Below HSC* Avg. (n=1375)	56.7%	25.2%	18.1%
At HSC Avg. (n=789)	47.3%	26.9%	25.8%
Above HSC Avg. (n=1300)	42.2%	34.1%	23.7%
Unknown (n=0)			

\* HSC = Health Services Command

Table 4-66

Age Group by Severity of all Dental Treatment Needs for Spouses  
% of Spouses

Severity of all Dental Treatment Needs

	None	Routine	Emergent
<u>Age</u>			
All ages (n=3561)	20.3%	53.7%	26.0%
< 19 yrs. (n=112)	10.7%	60.7%	28.6%
20-24 yrs. (n=733)	15.6%	54.0%	30.4%
25-29 yrs. (n=848)	16.3%	51.8%	31.9%
30-34 yrs. (n=862)	23.8%	51.7%	24.5%
35-39 yrs. (n=591)	24.2%	55.2%	20.6%
40-44 yrs. (n=281)	26.0%	57.3%	16.7%
45-49 yrs. (n=94)	26.6%	59.6%	13.8%
50 + yrs. (n=40)	32.5%	55.0%	12.5%
Unknown (n=0)			

Table 4-67

Race by Severity of all Dental Treatment Needs for Spouses  
% of Spouses

Severity of all Dental Treatment Needs

	None	Routine	Emergent
<u>Race</u>			
All Races (n=3561)	20.3%	53.7%	26.0%
White (n=2312)	22.8%	53.8%	23.4%
Black (n=675)	11.5%	54.1%	34.4%
Hispanic (n=281)	22.4%	55.2%	22.4%
Other (n=288)	18.8%	51.0%	30.2%
Unknown (n=5)			

Table 4-68

## Education Level by Severity of all Dental Treatment Needs for Spouses

<u>Education Level</u>	% of Spouses		
	<u>Severity of all Dental Treatment Needs</u>		
	None	Routine	Emergent
All educ. levels (n=3561)	20.3%	53.7%	26.0%
No H.S. (n=39)	7.7%	66.7%	25.4%
Some H.S. (n=178)	11.2%	50.0%	38.8%
H.S. grad (n=1384)	14.3%	56.6%	29.1%
Some college (n=1338)	22.3%	52.2%	25.5%
College grad (n=461)	32.6%	51.6%	15.8%
Beyond college (n=139)	35.2%	50.4%	14.4%
Unknown (n=22)			

Table 4-69

Rank Group by Severity of all Dental Treatment Needs for Spouses  
 % of Spouses

Severity of all Dental Treatment Needs

	None	Routine	Emergent
<u>Rank Group</u>			
All Ranks (n=3561)	20.3%	53.7%	26.0%
Enlisted (n=2689)	15.6%	54.3%	30.1%
Officer (n=716)	37.0%	50.3%	12.7%
Warrant (n=154)	24.0%	61.0%	15.0%
E1-E4 (n=748)	12.0%	53.9%	34.1%
E5-E6 (n=1258)	15.1%	53.9%	31.0%
E7-E9 (n=683)	20.5%	55.3%	24.2%
O1-O3 (n=394)	35.3%	50.8%	13.9%
O4 + (n=322)	39.1%	49.7%	11.2%
Unknown (n=2)			



Table 4-70

Source of Patient by Severity of all Dental Treatment Needs for Spouses

<u>Source of Patient</u>	% of Spouses		
	<u>Severity of all Dental Treatment Needs</u>		
	None	Routine	Emergent
All Patients (n=3561)	20.3%	53.7%	26.0%
Volunteer (n=1560)	20.4%	55.1%	24.5%
Routine (n=1556)	24.6%	58.7%	16.7%
Sick Call (n=445)	4.9%	31.9%	63.2%
Unknown (n=0)			

Table 4-71

Level of Dependent Dental Care at Study Site by Severity of all Dental Treatment Needs for Spouses

Level of Dependent <u>Dental Care</u>	% of Spouses		
	<u>Severity of all Dental Treatment Needs</u>		
	None	Routine	Emergent
All Levels of Care (n=3561)	20.3%	53.7%	26.0%
Below HSC* Avg. (n=1421)	14.2%	55.0%	30.8%
At HSC Avg. (n=801)	19.6%	52.9%	27.5%
Above HSC Avg. (n=1339)	27.2%	52.9%	19.9%
Unknown (n=0)			

\* HSC = Health Services Command

Table 4-72

Rank Order of Type of Dental Condition Diagnosed as Primary Need  
Among Spouses Classified in Need of Routine Dental Care (n=1913)

% of Spouses in Need  
of Routine Dental Care

Type of Dental  
Condition  
Diagnosed as  
Primary Need

Prophy need	26.4%
Caries	25.8%
Defective Restoration	19.9%
Periondontal Disease	14.6%
Prosthetic need	7.0%
Extractions	2.0%
Malocclusion	1.7%
Other	1.2%
Impactions	1.1%
Soft Tissue Pathology	0.2%
Pericoronitis	0.1%

Table 4-73

Rank Order of Type of Dental Condition Diagnosed as Primary Need  
Among of Spouses Classified in Need of Emergency Dental Care  
(n=924)

Type of Dental Condition Diagnosed as <u>Primary Need</u>	% of Spouses in Need <u>of Emergency Care</u>
Extractions	22.8%
Caries	19.9%
Defectives Restorations	18.9%
Periondontal Disease	17.2%
Prosthetic need	8.0%
Impactions	7.5%
Pericoronitis	2.5%
ANUG	2.4%
Other	0.6%
Soft Tissue Pathology	0.1%

Table 4-74

Education Level of Father by Severity of all Dental Treatment Needs for Preschoolers at Ft. Sam Houston

Education Level of <u>Child's Father</u>	% of Preschoolers		
	<u>Severity of all Dental Treatment Needs</u>		
	None	Routine	Emergent
All educ. levels (n=93)	92.5%	7.5%	0%
Some college or less (n=43)	90.7%	9.3%	0%
College grad or more (n=47)	95.7%	4.3%	0%
Unknown (n=3)			

Table 4-75

Rank Group by Severity of all Dental Treatment Needs for  
Preschoolers at Ft. Sam Houston

<u>Rank Group</u>	<u>% of Preschoolers</u> <u>Severity of all Dental Treatment Needs</u>		
	None	Routine	Emergent
All Ranks (n=93)	92.5%	7.5%	0%
Enlisted (n=49)	89.8%	10.2%	0%
Officer and Warrant (n=41)	97.6%	2.4%	0%
E1-E6 (n=32)	87.5%	12.5%	0%
E7-E9 (n=17)	94.1%	5.9%	0%
O1-O3 (n=22)	95.4%	4.6%	0%
O4 + (n=16)	100%	0%	0%
Unknown (n=3)			

Table 4-76

Age by Intensity of Restorative Treatment Needs for Grade School Children at Ft. Sam Houston

% Grade School Children

Intensity of Restorative Treatment Needs

	None	1-3 Teeth	4-6 Teeth	7 + Teeth
<u>Age</u>				
All ages (n=828)	74.5%	23.1%	1.8%	0.6%
5 yrs. (n=77)	76.6%	20.8%	1.3%	1.3%
6 yrs. (n=129)	70.5%	25.6%	2.3%	1.6%
7 yrs. (n=145)	70.3%	23.5%	4.8%	1.4%
8 yrs. (n=116)	77.6%	20.7%	1.7%	0%
9 yrs. (n=115)	74.8%	24.3%	0.9%	0%
10 yrs. (n=101)	70.3%	28.7%	1.0%	0%
11 yrs. (n=101)	87.2%	16.8%	0%	0%
12-13 yrs. (n=44)	77.3%	22.7%	0%	0%
Unknown (n=0)				

Table 4-77

Race by Intensity of Restorative Treatment Needs for Grade School Children at Ft. Sam Houston

% Grade School Children				
<u>Intensity of Restorative Treatment Needs</u>				
	None	1-3 Teeth	4-6 Teeth	7 + Teeth
<u>Race</u>				
All Races (n=828)	74.5%	23.1%	1.8%	0.6%
White (n=427)	77.8%	20.1%	1.4%	0.7%
Black (n=222)	68.0%	29.3%	2.2%	0.5%
Hispanic (n=163)	76.7%	20.3%	2.4%	0.6%
Other (n=16)	56.2%	43.8%	0%	0%
Unknown (n=0)				



Table 4-78

Education Level of Child's Father by Intensity of Restorative  
Treatment Needs for Grade School Children at Ft. Sam Houston

% Grade School Children

Intensity of Restorative Treatment Needs

	None	1-3 Teeth	4-6 Teeth	7 + Teeth
Education Level of <u>Child's Father</u>				
All educ. levels (n=828)	74.5%	23.1%	1.8%	0.6%
H.S. grad or less (n=134)	67.9%	28.4%	2.2%	1.5%
Some college (n=359)	72.7%	24.8%	1.9%	0.6%
College grad (n=109)	86.2%	13.8%	0%	0%
Beyond college (n=155)	83.2%	15.5%	1.3%	0%
Unknown (n=71)				

Table 4-79

Rank Group by Intensity of Restorative Treatment Needs for Grade  
School Children at Ft. Sam Houston

% Grade School Children

Intensity of Restorative Treatment Needs

	None	1-3 Teeth	4-6 Teeth	7 + Teeth
<u>Rank Group</u>				
All Ranks (n=828)	74.5%	23.1%	1.8%	0.6%
Enlisted (n=580)	72.8%	24.3%	2.2%	0.7%
Officer (n=164)	84.8%	14.6%	0.6%	0%
Warrant (n=21)	71.4%	28.6%	0%	0%
E1-E4 (n=42)	69.0%	28.6%	2.4%	0%
E5-E6 (n=339)	69.6%	26.9%	3.2%	0.3%
E7-E9 (n=199)	78.9%	19.1%	0.5%	1.5%
O1-O3 (n=64)	85.9%	12.5%	1.6%	0%
O4 + (n=100)	84.0%	16.0%	0%	0%
Unknown (n=63)				

Table 4-80

Age by Mix of Restorative Treatment Needs for Grade School Children at Ft. Sam Houston

<u>Age</u>	% of Grade School Children		
	<u>Mix of Restorative Treatment Needs</u>		
	None	Simple	Complex
All ages (n=828)	74.5%	19.0%	6.5%
5 yrs. (n=77)	76.6%	16.9%	6.5%
6 yrs. (n=129)	70.6%	24.0%	5.4%
7 yrs. (n=145)	70.3%	21.4%	8.3%
8 yrs. (n=116)	77.6%	18.1%	4.3%
9 yrs. (n=115)	74.8%	20.0%	5.2%
10 yrs. (n=101)	70.3%	15.8%	13.9%
11 yrs. (n=101)	83.2%	13.8%	3.0%
12-13 yrs. (n=44)	77.3%	18.2%	4.5%
Unknown (n=0)			

Table 4-81

Race by Mix of Restorative Treatment Needs for Grade School Children at Ft. Sam Houston

	% of Grade School Children		
	<u>Mix of Restorative Treatment Needs</u>		
	None	Simple	Complex
<u>Race</u>			
All Races (n=828)	74.5%	19.0%	6.5%
White (n=427)	77.8%	15.9%	6.3%
Black (n=222)	68.0%	25.2%	6.8%
Hispanic (n=163)	76.7%	17.8%	5.5%
Other (n=16)	56.2%	25.0%	18.8%
Unknown (n=0)			

Table 4-82

Education Level of Child's Father by Mix of Restorative Treatment  
Needs for Grade School Children at Ft. Sam Houston

Education Level of <u>Child's Father</u>	% of Grade School Children		
	<u>Mix of Restorative Treatment Needs</u>		
	None	Simple	Complex
All educ. levels (n=828)	74.5%	19.0%	6.5%
H.S. grad or less (n=134)	67.9%	24.6%	7.5%
Some college (n=359)	72.7%	20.3%	7.0%
College grad (n=109)	86.2%	10.1%	3.7%
Beyond college (n=155)	83.2%	13.6%	3.2%
Unknown (n=71)			

Table 4-83

Rank Group by Mix of Restorative Treatment Needs for Grade School Children at Ft. Sam Houston

<u>Rank Group</u>	% of Grade School Children		
	<u>Mix of Restorative Treatment Needs</u>		
	None	Simple	Complex
All Ranks (n=828)	74.5%	19.0%	6.5%
Enlisted (n=580)	72.8%	20.7%	6.5%
Officer (n=164)	84.8%	12.2%	3.0%
Warrant (n=21)	71.4%	19.1%	9.5%
E1-E4 (n=42)	69.1%	23.8%	7.1%
E5-E6 (n=339)	69.6%	22.7%	7.7%
E7-E9 (n=199)	78.9%	16.6%	4.5%
O1-O3 (n=64)	85.9%	9.4%	4.7%
O4 + (n=100)	84.0%	14.0%	2.0%
Unknown (n=63)			

Table 4-84

Age by Distribution of Restorative Procedures Among Teeth in Need  
of Restorative Care for Grade School Children at Ft. Sam Houston

% of Grade School Children

Distribution of Restorative Procedures

	1 Surf.	2 Surf.	3-5 Surf.	SSC	Ext.
<u>Age</u>					
All ages (n=401)	40.1%	34.7%	6.0%	11.5%	7.7%
5 yrs. (n=35)	42.9%	25.7%	2.8%	20.0%	8.6%
6 yrs. (n=81)	45.7%	38.3%	3.7%	9.9%	2.4%
7 yrs. (n=102)	35.3%	39.2%	4.9%	16.7%	3.9%
8 yrs. (n=45)	28.9%	51.1%	0%	13.3%	6.7%
9 yrs. (n=49)	42.9%	30.6%	12.2%	0%	14.3%
10 yrs. (n=50)	32.0%	22.0%	14.0%	16.0%	16.0%
11 yrs. (n=28)	60.7%	25.0%	7.2%	0%	7.1%
12 yrs. (n=11)	54.6%	27.3%	0%	0%	18.2%
Unknown (n=0)					

Table 4-85

Race by Distribution of Restorative Procedures Among Teeth in  
Need of Restorative Care for Grade School Children at Ft. Sam  
Houston

% of Grade School Children

Distribution of Restorative Procedures

	1 Surf.	2 Surf.	3-5 Surf.	SSC	Ext.
<u>Race</u>					
All Races (n=401)	40.1%	34.7%	6.0%	11.5%	7.7%
White (n=179)	38.5%	31.3%	4.5%	15.1%	10.6%
Black (n=135)	37.8%	43.7%	7.4%	6.7%	4.4%
Hispanic (n=78)	47.5%	29.5%	6.4%	11.5%	5.1%
Other (n=9)	44.5%	11.1%	11.1%	11.1%	22.2%
Unknown (n=0)					



Table 4-86

Education Level of Child's Father by Distribution of Restorative Procedures Among Teeth in Need of Restorative Care for Grade School Children at Ft. Sam Houston

% of Grade School Children

Distribution of Restorative Procedures

	1 Surf.	2 Surf.	3-5 Surf.	SSC	Ext.
Education Level of <u>Child's Father</u>					
All educ. levels (n=401)	40.1%	34.7%	6.0%	11.5%	7.7%
H.S. grad or less (n=92)	44.6%	27.2%	6.5%	16.3%	5.4%
Some college (n=177)	37.3%	35.0%	8.5%	8.5%	10.7%
College grad or more (n=65)	46.2%	35.4%	1.5%	12.3%	4.6%
Unknown (n=67)					

Table 4-87

Rank Group by Distribution of Restorative Procedures Among Teeth  
in Need of Restorative Care for Grade School Children at Ft. Sam  
Houston

% of Grade School Children

Distribution of Restorative Procedures

	1 Surf.	2 Surf.	3-5 Surf.	SSC	Ext.
<u>Rank Group</u>					
All Ranks (n=401)	40.1%	34.7%	6.0%	11.5%	7.7%
Enlisted (n=307)	40.7%	32.3%	7.1%	12.4%	7.5%
Officer (n=39)	56.4%	30.8%	2.6%	5.1%	5.1%
Warrant (n=7)	14.3%	57.1%	0%	0%	28.6%
E1-E4 (n=23)	26.1%	39.1%	13.0%	17.4%	4.4%
E5-E6 (n=201)	42.3%	32.8%	8.0%	7.9%	9.0%
E7-E9 (n=83)	41.0%	28.9%	3.6%	21.7%	4.8%
O1-O3 (n=19)	52.6%	31.6%	0%	10.5%	5.3%
O4 + (n=20)	60.0%	30.0%	5.0%	0%	5.0%
Unknown (n=48)					

Table 4-88

~~Restorative Treatment Needs for Grade School~~  
~~Houston~~

% of Grade School Children

Severity of Restorative Treatment Needs

	None	Routine	Emergent
<del>74.5%</del>	74.5%	22.7%	2.8%
<del>76.6%</del>	76.6%	20.8%	2.6%
<del>70.6%</del>	70.6%	27.1%	2.3%
<del>70.4%</del>	70.4%	24.8%	4.8%
<del>77.6%</del>	77.6%	17.2%	5.2%
<del>74.8%</del>	74.8%	24.3%	0.9%
<del>70.3%</del>	70.3%	27.7%	2.0%
<del>83.2%</del>	83.2%	15.8%	1.0%
<del>77.3%</del>	77.3%	20.4%	2.3%

Table 4-89

Race by Severity of Restorative Treatment Needs for Grade School Children at Ft. Sam Houston

<u>Race</u>	% of Grade School Children		
	<u>Severity of Restorative Treatment Needs</u>		
	None	Routine	Emergent
All Races (n=828)	74.5%	22.7%	2.8%
White (n=427)	77.8%	18.7%	3.5%
Black (n=222)	68.0%	29.7%	2.3%
Hispanic (n=163)	76.7%	22.7%	0.6%
Other (n=16)	56.3%	31.2%	12.5%
Unknown (n=0)			

Table 4-90

Education Level of Child's Father by Severity of Restorative  
Treatment Needs for Grade School Children at Ft. Sam Houston

% of Grade School Children

Severity of Restorative Treatment Needs

	None	Routine	Emergent
Education Level of <u>Child's Father</u>			
All educ. levels (n=828)	74.5%	22.7%	2.8%
H.S. grad or less (n=134)	67.9%	28.3%	3.7%
Some college (n=359)	72.7%	24.2%	3.1%
College grad (n=109)	86.3%	12.8%	0.9%
Beyond college (n=155)	83.2%	16.1%	0.7%
Unknown (n=71)			

Table 4-91

Rank Group by Severity of Restorative Treatment Needs for Grade School Children at Ft. Sam Houston

% of Grade School Children

Severity of Restorative Treatment Needs

	None	Routine	Emergent
<u>Rank Group</u>			
All Ranks (n=828)	74.5%	22.7%	2.8%
Enlisted (n=580)	72.8%	24.3%	2.9%
Officer (n=164)	84.8%	14.6%	0.6%
Warrant (n=21)	71.4%	23.8%	4.8%
E1-E4 (n=42)	69.0%	26.2%	4.8%
E5-E6 (n=339)	69.6%	27.7%	2.7%
E7-E9 (n=199)	78.9%	18.1%	3.0%
O1-O3 (n=64)	85.9%	12.5%	1.6%
O4 + (n=100)	84.0%	16.0%	0%
Unknown (n=63)			

Table 4-92

Age by Number of Surfaces Needing Sealants for Grade School Children at Ft. Sam Houston

<u>Age</u>	% of Grade School Children				
	<u>Number of Surfaces Needing Sealants</u>				
	None	1	2	3	4 +
All ages (n=828)	66.2%	16.5%	9.9%	4.7%	2.7%
5 yrs. (n=77)	87.0%	9.1%	2.6%	0%	1.3%
6 yrs. (n=129)	73.6%	16.3%	5.4%	2.3%	2.3%
7 yrs. (n=145)	62.1%	17.9%	12.4%	5.5%	2.1%
8 yrs. (n=116)	56.1%	23.3%	12.9%	6.0%	1.7%
9 yrs. (n=115)	61.7%	19.1%	11.3%	4.4%	3.5%
10 yrs. (n=101)	70.3%	9.9%	10.9%	4.9%	4.0%
11 yrs. (n=101)	63.4%	13.8%	12.9%	6.9%	3.0%
12-13 yrs. (n=44)	56.8%	22.7%	6.8%	9.1%	4.5%
Unknown (n=0)					

Table 4-93

Race by Number of Surfaces Needing Sealants for Grade School Children at Ft. Sam Houston

<u>Race</u>	% of Grade School Children				
	<u>Number of Surfaces Needing Sealants</u>				
	None	1	2	3	4 +
All Races (n=828)	66.2%	16.5%	9.9%	4.7%	2.7%
White (n=427)	70.3%	14.3%	8.2%	4.4%	2.8%
Black (n=222)	63.1%	18.9%	11.3%	4.0%	2.7%
Hispanic (n=163)	59.5%	18.4%	13.5%	6.1%	2.5%
Other (n=16)	68.8%	25.0%	0%	6.2%	0%
Unknown (n=0)					



Table 4-94

Education Level of Child's Father by Number of Surfaces Needing Sealants for Grade School Children at Ft. Sam Houston

Education Level of Child's Father	% of Grade School Children				
	<u>Number of Surfaces Needing Sealants</u>				
	None	1	2	3	4 +
All educ. levels (n=828)	66.2%	16.5%	9.9%	4.7%	2.7%
H.S. grad or less (n=134)	64.2%	15.7%	11.9%	5.2%	3.0%
Some college (n=359)	62.7%	19.8%	9.5%	4.4%	3.6%
College grad (n=109)	67.9%	10.1%	13.8%	6.4%	1.8%
Beyond college (n=155)	74.8%	14.2%	7.7%	2.6%	0.7%
Unknown (n=71)					

Table 4-95

Rank Group by Number of Surfaces Needing Sealants for Grade School Children at Ft. Sam Houston

<u>Rank Group</u>	% of Grade School Children				
	<u>Number of Surfaces Needing Sealants</u>				
	None	1	2	3	4 +
All Ranks (n=828)	66.2%	16.5%	9.9%	4.7%	2.7%
Enlisted (n=580)	63.8%	17.9%	10.5%	4.7%	3.1%
Officer (n=164)	75.0%	11.6%	8.5%	3.7%	1.2%
Warrant (n=21)	61.9%	19.0%	14.3%	4.8%	0%
E1-E4 (n=42)	71.4%	16.7%	4.8%	4.7%	2.4%
E5-E6 (n=339)	63.2%	17.7%	10.0%	5.0%	4.1%
E7-E9 (n=199)	63.3%	18.6%	12.6%	4.0%	1.5%
O1-O3 (n=64)	67.2%	14.1%	14.1%	3.1%	1.5%
O4 + (n=100)	80.0%	10.0%	5.0%	4.0%	1.0%
Unknown (n=63)					

Table 4-96

Race by Orthodontic Treatment Priority Index Score for 6-11 years  
old Grade School Children at Ft. Sam Houston

% of Grade School Children

	Normal/Minor	Elective	Severe/Handicapping
<u>Race</u>			
All Races (n=671)	65.0%	21.6%	13.1%
White (n=351)	63.0%	25.9%	11.1%
Black (n=178)	66.9%	18.5%	14.6%
Hispanic (n=130)	67.7%	14.6%	17.7%
Other (n=12)	66.7%	16.7%	16.6%
Unknown (n=0)			

Table 4-97

Education Level of Child's Father by Orthodontic Treatment  
Priority Index Score for 6-11 years old Grade School Children at  
Ft. Sam Houston

% of Grade School Children

	Normal/Minor	Elective	Severe/Handicapping
<u>Education</u> <u>Level of</u> <u>Child's Father</u>			
All educ. levels (n=671)	65.0%	21.6%	13.4%
H.S. grad or less (n=105)	63.8%	19.1%	17.1%
Some college (n=295)	64.4%	21.0%	14.6%
College grad (n=85)	71.7%	16.5%	11.8%
Beyond college (n=129)	60.5%	31.8%	7.7%
Unknown (n=57)			

Table 4-98

Rank Group by Orthodontic Treatment Priority Index Score for 6-11  
years old Grade School Children at Ft. Sam Houston

% of Grade School Children

	Normal/Minor	Elective	Severe/Handicapping
<u>Rank Group</u>			
All Ranks (n=671)	65.0%	21.6%	13.4%
Enlisted (n=466)	65.5%	19.7%	14.8%
Officer (n=136)	62.5%	30.2%	7.3%
Warrant (n=17)	58.8%	29.4%	11.8%
E1-E4 (n=33)	78.8%	9.1%	12.1%
E5-E6 (n=269)	66.9%	19.0%	14.1%
E7-E9 (n=164)	60.4%	23.2%	16.4%
O1-O3 (n=54)	63.0%	31.5%	5.5%
O4 + (n=82)	62.2%	29.3%	8.5%
Unknown (n=52)			

Table 4-99

Age by Severity of all Dental Treatment Needs for Grade School Children at Ft. Sam Houston

<u>% of Grade School Children</u>			
Severity of all Dental Treatment Needs			
	None	Routine	Emergent
<u>Age</u>			
All ages (n=828)	44.6%	50.4%	5.0%
5 yrs. (n=77)	67.5%	27.3%	5.2%
6 yrs. (n=129)	53.5%	41.9%	4.6%
7 yrs. (n=145)	38.6%	52.4%	9.0%
8 yrs. (n=116)	37.9%	56.9%	5.2%
9 yrs. (n=115)	36.5%	60.0%	3.5%
10 yrs. (n=101)	46.5%	47.5%	6.0%
11 yrs. (n=101)	42.6%	55.4%	2.0%
12-13 yrs. (n=44)	36.4%	61.3%	2.3%
Unknown (n=0)			

Table 4-100

Race by Severity of all Dental Treatment Needs for Grade School Children at Ft. Sam Houston

	<u>% of Grade School Children</u>		
	Severity of all Dental Treatment Needs		
	None	Routine	Emergent
<u>Race</u>			
All Races (n=828)	44.6%	50.4%	5.0%
White (n=427)	48.2%	45.9%	5.9%
Black (n=222)	41.0%	55.0%	4.0%
Hispanic (n=163)	41.1%	55.2%	3.7%
Other (n=16)	31.2%	56.3%	12.5%
Unknown (n=0)			

Table 4-101

Education Level of Child's Father by Severity of all Dental Treatment Needs for Grade School Children at Ft. Sam Houston

% of Grade School Children

Severity of all Dental Treatment Needs

	None	Routine	Emergent
<u>Education Level of Child's Father</u>			
All educ. levels (n=828)	44.6%	50.4%	5.0%
H.S grad or less (n=134)	40.3%	51.5%	8.2%
Some college (n=359)	40.7%	54.3%	5.0%
College grad (n=109)	48.6%	48.6%	2.8%
Beyond college (n=155)	55.5%	42.6%	1.9%
Unknown (n=71)			



Table 4-102

Rank Group by Severity of all Dental Treatment Needs for Grade School Children at Ft. Sam Houston

% of Grade School Children

Severity of all Dental Treatment Needs

<u>Rank Group</u>	None	Routine	Emergent
All Ranks (n=828)	44.6%	50.4%	5.0%
Enlisted (n=580)	41.0%	53.5%	5.5%
Officer (n=164)	56.1%	42.1%	1.8%
Warrant (n=21)	42.9%	52.4%	4.7%
E1-E4 (n=42)	45.2%	45.3%	9.5%
E5-E6 (n=339)	41.9%	51.9%	6.2%
E7-E9 (n=199)	38.7%	57.8%	3.5%
O1-O3 (n=64)	43.7%	51.6%	4.7%
O4 + (n=100)	64.0%	36.0%	0%
Unknown (n=63)			

Table 4-103

Percent of Grade School Children at Ft. Sam Houston Classified in  
Need of No Dental Care Who Were Diagnosed as Needing an Oral  
Prophylaxis (n=368)

% of Grade School Children

Prophy Need

Yes	17.1%
Nc	82.9%

Table 4-104

Rank Order of Type of Dental Condition Diagnosed as Primary Need  
Among Grade School Children at Ft. Sam Houston Classified in Need  
of Routine Dental Care (n=418)

% of Grade School Children  
in Need of Routine Dental Care

Type of Dental  
Condition  
Diagnosed as  
Primary Need

Sealants	35.4%
Orthodontics	30.4%
Caries	29.2%
Defective Restorations	2.2%
Other	1.7%
Extractions	1.2%

Table 4-105

Rank Order of Type of Dental Condition Diagnosed as Primary Need  
Among Grade School Children at Ft. Sam Houston in Need of  
Emergency Dental Care (n=42)

Type of Dental Condition Diagnosed as <u>Primary Need</u>	% of Grade School Children <u>in Need of Emergency Care</u>
Caries	76.2%
Extractions	23.8%

Table 4-106

Age by Intensity of Restorative Treatment Needs for Grade School Children at Ft. Lewis

% Grade School Children				
<u>Intensity of Restorative Treatment Needs</u>				
	None	1-3 Teeth	4-6 Teeth	7 + Teeth
<u>Age</u>				
All ages (n=1235)	71.9%	23.2%	4.0%	0.8%
5 yrs. (n=70)	70.0%	18.6%	11.4%	0%
6 yrs. (n=204)	69.6%	21.6%	5.9%	2.9%
7 yrs. (n=215)	73.0%	22.8%	3.3%	0.9%
8 yrs. (n=205)	69.8%	23.9%	5.9%	0.5%
9 yrs. (n=179)	67.6%	28.5%	3.3%	0.6%
10 yrs. (n=142)	75.4%	26.6%	0%	0%
11 yrs. (n=137)	77.4%	20.4%	2.2%	0%
12-13 yrs. (n=83)	75.9%	21.7%	2.4%	0%
Unknown (n=0)				

Table 4-107

Race by Intensity of Restorative Treatment Needs for Grade School Children at Ft. Lewis

% Grade School Children

Intensity of Restorative Treatment Needs

	None	1-3 Teeth	4-6 Teeth	7 + Teeth
<u>Race</u>				
All Races (n=1235)	71.9%	23.2%	4.0%	0.8%
White (n=703)	77.8%	19.9%	1.9%	0.4%
Black (n=270)	64.8%	27.4%	7.4%	0.4%
Hispanic (n=105)	60.0%	29.5%	7.6%	2.9%
Other (n=157)	65.6%	26.8%	5.7%	1.9%
Unknown (n=0)				

Table 4-108

Education Level of Child's Father by Intensity of Restorative  
Treatment Needs for Grade School Children at Ft. Lewis

% Grade School Children

Intensity of Restorative Treatment Needs

	None	1-3 Teeth	4-6 Teeth	7 + Teeth
Education Level of <u>Child's Father</u>				
All educ. levels (n=1235)	71.9%	23.2%	4.0%	0.8%
H.S. grad or less (n=398)	75.6%	27.9%	5.3%	1.2%
Some college (n=513)	72.3%	22.2%	4.7%	0.8%
College grad (n=160)	82.5%	15.6%	1.9%	0%
Beyond college (n=120)	80.8%	18.4%	0%	0.8%
Unknown (n=44)				

Table 4-109

Rank Group by Intensity of Restorative Treatment Needs for Grade School Children at Ft. Lewis

% Grade School Children

Intensity of Restorative Treatment Needs

	None	1-3 Teeth	4-6 Teeth	7 + Teeth
<u>Rank Group</u>				
All Ranks (n=1235)	71.9%	23.2%	4.0%	0.8%
Enlisted (n=930)	68.2%	25.7%	5.1%	1.0%
Officer (n=191)	85.4%	14.1%	0%	0.5%
Warrant (n=91)	81.3%	16.5%	2.2%	0%
E1-E4 (n=54)	75.9%	16.7%	5.6%	1.8%
E5-E6 (n=541)	65.4%	27.6%	6.1%	0.9%
E7-E9 (n=335)	71.3%	24.2%	3.6%	0.9%
O1-O3 (n=96)	84.4%	14.6%	0%	1.0%
O4 + (n=95)	86.3%	13.7%	0%	0%
Unknown (n=23)				



Table 4-110

Age by Mix of Restorative Treatment Needs for Grade School Children at Ft. Lewis

<u>Age</u>	<u>% of Grade School Children</u> <u>Mix of Restorative Treatment Needs</u>		
	None	Simple	Complex
All ages (n=1235)	71.9%	20.9%	7.2%
5 yrs. (n=70)	70.0%	25.7%	4.3%
6 yrs. (n=204)	69.6%	21.6%	8.8%
7 yrs. (n=215)	73.0%	20.5%	6.5%
8 yrs. (n=205)	69.8%	23.4%	6.8%
9 yrs. (n=179)	67.6%	22.9%	9.5%
10 yrs. (n=142)	75.4%	16.2%	8.4%
11 yrs. (n=137)	77.4%	19.0%	3.6%
12-13 yrs. (n=83)	75.9%	16.9%	7.2%
Unknown (n=0)			

Table 4-111

Race by Mix of Restorative Treatment Needs for Grade School Children at Ft. Lewis

<u>Race</u>	% of Grade School Children		
	<u>Mix of Restorative Treatment Needs</u>		
	None	Simple	Complex
All Races (n=1235)	71.9%	20.9%	7.2%
White (n=703)	77.8%	16.4%	5.8%
Black (n=270)	64.8%	28.2%	7.0%
Hispanic (n=105)	60.0%	28.6%	11.4%
Other (n=157)	65.6%	23.6%	10.8%
Unknown (n=0)			

Table 4-112

Education Level of Child's Father by Mix of Restorative Treatment Needs for Grade School Children at Ft. Lewis

Education Level of <u>Child's Father</u>	% of Grade School Children		
	<u>Mix of Restorative Treatment Needs</u>		
	None	Simple	Complex
All educ. levels (n=1235)	71.9%	20.9%	7.2%
H.S. grad or less (n=398)	65.6%	24.4%	10.0%
Some college (n=513)	72.3%	21.4%	6.3%
College grad (n=160)	82.5%	13.8%	3.7%
Beyond college (n=120)	80.8%	15.0%	4.2%
Unknown (n=44)			

Table 4-113

## Rank Group by Mix of Restorative Treatment Needs for Grade School Children at Ft. Lewis

<u>Rank Group</u>	% of Grade School Children		
	<u>Mix of Restorative Treatment Needs</u>		
	None	Simple	Complex
All Ranks (n=1235)	71.9%	20.9%	7.2%
Enlisted (n=930)	68.2%	23.5%	8.3%
Officer (n=191)	85.3%	11.5%	3.2%
Warrant (n=91)	81.3%	13.2%	5.5%
E1-E4 (n=54)	75.9%	20.4%	3.7%
E5-E6 (n=541)	65.4%	26.1%	8.5%
E7-E9 (n=335)	71.3%	20.0%	8.7%
O1-O3 (n=96)	84.4%	12.5%	3.1%
O4 + (n=95)	86.3%	10.5%	3.2%
Unknown (n=23)			

Table 4-114

Age by Distribution of Restorative Procedures Among Teeth in Need of Restorative Care for Grade School Children at Ft. Lewis

% of Grade School Children

Distribution of Restorative Procedures

<u>Age</u>	1 Surf. Rest	2 Surf. Rest	3-5 Surf. Rest	SSC	Ext.
All ages (n=713)	39.0%	38.3%	4.5%	9.7%	8.5%
5 yrs. (n=54)	40.7%	37.1%	7.4%	14.8%	0%
6 yrs. (n=159)	42.8%	31.4%	3.8%	13.8%	8.2%
7 yrs. (n=115)	33.0%	46.1%	1.7%	12.2%	7.0%
8 yrs. (n=142)	38.7%	44.4%	2.8%	6.3%	7.8%
9 yrs. (n=110)	39.1%	37.3%	5.4%	10.0%	8.2%
10 yrs. (n=49)	34.7%	36.7%	4.1%	10.2%	14.3%
11 yrs. (n=52)	42.3%	38.5%	7.7%	0%	11.5%
12-13 yrs. (n=32)	40.6%	25.0%	12.5%	0%	21.9%
Unknown (n=0)					

Table 4-115

Race by Distribution of Restorative Procedures Among Teeth in  
Need of Restorative Care for Grade School Children at Ft. Lewis

% of Grade School Children

Distribution of Restorative Procedures

<u>Race</u>	1 Surf. Rest	2 Surf. Rest	3-5 Surf. Rest	SSC	Ext.
All Races (n=713)	39.0%	38.3%	4.5%	9.7%	8.5%
White (n=286)	38.5%	38.5%	5.2%	7.7%	10.1%
Black (n=206)	47.6%	39.8%	2.9%	5.3%	4.4%
Hispanic (n=101)	36.6%	31.7%	6.9%	13.9%	10.9%
Other (n=120)	27.5%	40.8%	3.3%	18.3%	10.0%
Unknown (n=0)					

Table 4-116

Education Level of Child's Father by Distribution of Restorative Procedures Among Teeth in Need of Restorative Care for Grade School Children at Ft. Lewis

% of Grade School Children

Distribution of Restorative Procedures

Education Level of <u>Child's Father</u>	1 Surf. Rest	2 Surf. Rest	3-5 Surf. Rest	SSC	Ext.
All educ. levels (n=713)	39.0%	38.3%	4.5%	9.7%	8.5%
H.S. grad or less (n=294)	39.1%	34.0%	6.1%	11.9%	8.9%
Some college (n=302)	40.4%	40.0%	3.0%	8.0%	8.6%
College grad or more (n=85)	36.5%	45.9%	5.9%	3.5%	8.2%
Unknown (n=32)					

Table 4-117

Rank Group by Distribution of Restorative Procedures Among Teeth  
in Need of Restorative Care for Grade School Children at Ft.  
Lewis

% of Grade School Children

Distribution of Restorative Procedures

<u>Rank Group</u>	1 Surf. Rest	2 Surf. Rest	3-5 Surf. Rest	SSC	Ext.
All Ranks (n=713)	39.0%	38.3%	4.5%	9.7%	8.5%
Enlisted (n=631)	39.8%	37.2%	4.3%	10.1%	8.6%
Officer (n=42)	28.6%	54.8%	7.1%	2.4%	7.1%
Warrant (n=31)	35.5%	38.7%	6.5%	6.4%	12.9%
E1-E4 (n=33)	36.4%	57.6%	0%	3.0%	3.0%
E5-E6 (n=396)	41.4%	35.6%	4.6%	10.1%	8.3%
E7-E9 (n=202)	37.1%	37.1%	4.5%	11.4%	9.9%
O1-O3 (n=27)	22.2%	66.7%	3.7%	0%	7.4%
O4 + (n=15)	40.0%	33.3%	13.3%	6.7%	6.7%
Unknown (n=9)					



Table 4-118

## Age by Severity of Restorative Treatment Needs for Grade School Children at Ft. Lewis

% of Grade School Children			
<u>Severity of Restorative Treatment Needs</u>			
	None	Routine	Emergent
<u>Age</u>			
All ages (n=1235)	71.9%	24.6%	3.3%
5 yrs. (n=70)	70.0%	25.7%	4.3%
6 yrs. (n=204)	69.6%	27.0%	3.4%
7 yrs. (n=215)	73.0%	23.3%	3.7%
8 yrs. (n=205)	69.8%	26.3%	3.9%
9 yrs. (n=179)	67.6%	27.4%	5.0%
10 yrs. (n=142)	75.4%	22.5%	2.1%
11 yrs. (n=137)	77.4%	21.2%	1.4%
12-13 yrs. (n=83)	75.9%	22.9%	1.2%
Unknown (n=0)			

Table 4-119

Race by Severity of Restorative Treatment Needs for Grade School Children at Ft. Lewis

% of Grade School Children			
<u>Severity of Restorative Treatment Needs</u>			
	None	Routine	Emergent
<u>Race</u>			
All Races (n=1235)	71.9%	24.8%	3.3%
White (n=703)	77.8%	19.4%	2.8%
Black (n=270)	64.8%	32.6%	2.6%
Hispanic (n=105)	60.0%	34.3%	5.7%
Other (n=157)	65.6%	29.3%	5.1%
Unknown (n=0)			

Table 4-120

Education Level of Child's Father by Severity of Restorative Treatment Needs for Grade School Children at Ft. Lewis

% of Grade School Children

Severity of Restorative Treatment Needs

	None	Routine	Emergent
<u>Education Level of Child's Father</u>			
All educ. levels (n=1235)	71.9%	24.8%	3.3%
H.S grad or less (n=398)	65.6%	31.4%	3.0%
Some college (n=513)	72.3%	23.6%	4.1%
College grad (n=160)	82.5%	15.6%	1.9%
Beyond college (n=120)	80.8%	17.5%	1.7%
Unknown (n=44)			

Table 4-121

Rank Group by Severity of Restorative Treatment Needs for Grade School Children at Ft. Lewis

% of Grade School Children			
<u>Severity of Restorative Treatment Needs</u>			
	None	Routine	Emergent
<u>Rank Group</u>			
All Ranks (n=1235)	71.9%	24.8%	3.3%
Enlisted (n=930)	68.2%	28.0%	3.8%
Officer (n=191)	85.3%	13.1%	1.6%
Warrant (n=91)	81.3%	16.5%	2.2%
E1-E4 (n=54)	75.9%	18.5%	5.6%
E5-E6 (n=541)	65.4%	31.4%	3.2%
E7-E9 (n=335)	71.3%	24.2%	4.5%
O1-O3 (n=96)	84.4%	14.6%	1.0%
O4 + (n=95)	86.3%	11.6%	2.1%
Unknown (n=23)			

Table 4-122

Age by Number of Surfaces Needing Sealants for Grade School Children at Ft. Lewis

% of Grade School Children

<u>Age</u>	<u>Number of Surfaces Needing Sealants</u>				
	None	1	2	3	4 +
All ages (n=1235)	64.4%	17.3%	10.6%	4.5%	3.2%
5 yrs. (n=70)	75.7%	14.3%	5.7%	4.3%	0%
6 yrs. (n=204)	71.1%	14.2%	8.3%	3.9%	2.5%
7 yrs. (n=215)	62.3%	19.1%	9.3%	5.6%	3.7%
8 yrs. (n=205)	65.4%	16.1%	11.7%	4.4%	2.4%
9 yrs. (n=179)	59.2%	19.0%	13.4%	4.5%	3.9%
10 yrs. (n=142)	66.2%	15.5%	11.3%	6.3%	0.7%
11 yrs. (n=137)	61.3%	20.4%	11.0%	2.2%	5.1%
12-13 yrs. (n=83)	54.2%	19.3%	13.2%	4.8%	8.5%
Unknown (n=0)					

Table 4-123

Race by Number of Surfaces Needing Sealants for Grade School Children at Ft. Lewis

<u>Race</u>	% of Grade School Children				
	<u>Number of Surfaces Needing Sealants</u>				
	None	1	2	3	4 +
All Races (n=1235)	64.4%	17.3%	10.6%	4.5%	3.2%
White (n=703)	65.7%	16.8%	10.8%	5.0%	1.7%
Black (n=270)	63.0%	16.7%	9.6%	4.4%	6.3%
Hispanic (n=105)	62.9%	18.1%	9.5%	4.8%	4.7%
Other (n=157)	61.8%	19.7%	12.1%	2.6%	3.8%
Unknown (n=0)					

Table 4-124

Education Level of Child's Father by Number of of Surfaces  
Needing Sealants for Grade School Children at Ft. Lewis

Education Level of <u>Child's Father</u>	% of Grade School Children				
	<u>Number of Surfaces Needing Sealants</u>				
	None	1	2	3	4 +
All educ. levels (n=1235)	64.4%	17.3%	10.6%	4.5%	3.2%
H.S. grad or less (n=398)	62.5%	16.1%	11.3%	4.8%	5.3%
Some college (n=513)	64.3%	18.1%	10.3%	5.1%	2.2%
College grad (n=160)	65.0%	17.5%	11.95	3.7%	1.9%
Beyond college (n=120)	71.7%	14.2%	9.1%	2.5%	2.5%
Unknown (n=44)					

Table 4-125

Rank Group by Number of of Surfaces Needing Sealants for Grade School Children at Ft. Lewis

<u>Rank Group</u>	% of Grade School Children				
	<u>Number of Surfaces Needing Sealants</u>				
	None	1	2	3	4 +
All Ranks (n=1235)	64.4%	17.3%	10.6%	4.5%	3.2%
Enlisted (n=930)	63.4%	17.9%	10.3%	4.7%	3.7%
Officer (n=191)	70.7%	13.1%	11.5%	3.1%	1.6%
Warrant (n=91)	60.4%	19.8%	13.2%	5.5%	1.1%
E1-E4 (n=54)	70.4%	16.7%	5.5%	3.7%	3.7%
E5-E6 (n=541)	59.5%	19.8%	11.7%	4.8%	4.2%
E7-E9 (n=335)	68.7%	14.9%	8.9%	4.8%	2.7%
O1-O3 (n=96)	70.8%	9.4%	13.5%	4.2%	2.1%
O4 + (n=95)	70.5%	16.8%	9.5%	2.1%	1.1%
Unknown (n=23)					



Table 4-126

Race by Orthodontic Treatment Priority Index Score for 6-11 year  
old Grade School Children at Ft. Lewis

% of Grade School Children

Orthodontic Treatment Priority Index Score

<u>Race</u>	Normal/Minor	Elective	Severe/ Handicapping
All Races (n=1018)	61.5%	24.0%	14.5%
White (n=581)	55.4%	27.2%	17.4%
Black (n=222)	69.8%	20.7%	9.5%
Hispanic (n=82)	69.5%	19.5%	11.0%
Other (n=133)	69.2%	18.0%	12.8%
Unknown (n=0)			

Table 4-127

Education Level of Child's Father by Orthodontic Treatment  
Priority Index Score for 6-11 year old Grade School Children at  
Ft. Lewis

Education Level of <u>Child's Father</u>	% of Grade School Children		
	<u>Orthodontic Treatment Priority Index Score</u>		
	Normal/Minor	Elective	Severe/ Handicapping
All educ. levels (n=1018)	61.5%	24.0%	14.5%
H.S. grad or less (n=329)	61.1%	24.0%	14.9%
Some college (n=428)	61.7%	23.1%	15.2%
College grad (n=130)	72.3%	18.5%	9.2%
Beyond college (n=97)	54.6%	28.9%	16.5%
Unknown (n=34)			

Table 4-128

Rank Group by Orthodontic Treatment Priority Index Score for 6-11  
year old Grade School Children at Ft. Lewis

% of Grade School Children

Orthodontic Treatment Priority Index Score

<u>Rank Group</u>	Normal/Minor	Elective	Severe/ Handicapping
All Ranks (n=1018)	61.5%	24.0%	14.5%
Enlisted (n=760)	62.1%	23.0%	14.9%
Officer (n=157)	63.1%	26.7%	10.2%
Warrant (n=84)	56.0%	26.2%	17.8%
E1-E4 (n=43)	55.8%	32.6%	11.6%
E5-E6 (n=446)	64.6%	21.1%	14.3%
E7-E9 (n=271)	59.0%	24.7%	16.3%
O1-O3 (n=72)	61.1%	29.2%	9.7%
O4 + (n=85)	64.7%	24.7%	10.6%
Unknown (n=17)			

Table 4-129

Age by Severity of all Dental Treatment Needs for Grade School Children at Ft. Lewis

% of Grade School Children

Severity of all Dental Treatment Needs

	None	Routine	Emergent
<u>Age</u>			
All ages (n=1235)	43.2%	50.9%	6.0%
5 yrs. (n=70)	54.3%	38.6%	7.1%
6 yrs. (n=204)	51.0%	40.7%	8.3%
7 yrs. (n=215)	39.5%	54.0%	6.5%
8 yrs. (n=205)	44.9%	48.3%	6.8%
9 yrs. (n=179)	38.5%	54.2%	7.3%
10 yrs. (n=142)	43.7%	52.1%	4.2%
11 yrs. (n=137)	36.5%	61.3%	2.2%
12-13 yrs. (n=83)	39.8%	57.8%	2.4%
Unknown (n=0)			

Table 4-130

Race by Severity of all Dental Treatment Needs for Grade School Children at Ft. Lewis

% of Grade School Children			
<u>Severity of all Dental Treatment Needs</u>			
	None	Routine	Emergent
<u>Race</u>			
All Races (n=1235)	43.2%	50.9%	6.0%
White (n=703)	45.4%	49.9%	4.7%
Black (n=270)	41.5%	53.0%	5.5%
Hispanic (n=105)	38.1%	49.5%	12.4%
Other (n=157)	39.5%	52.2%	8.3%
Unknown (n=0)			

Table 4-131

Education Level of Child's Father by Severity of all Dental Treatment Needs for Grade School Children at Ft. Lewis

% of Grade School Children

Severity of all Dental Treatment Needs

	None	Routine	Emergent
Education Level of <u>Child's Father</u>			
All educ. levels (n=1235)	43.2%	50.9%	6.0%
H.S. or less (n=398)	41.2%	51.3%	7.5%
Some college (n=513)	43.5%	49.9%	6.6%
College grad (n=160)	46.9%	51.2%	1.9%
Beyond college (n=120)	47.5%	50.0%	2.5%
Unknown (n=44)			

Table 4-132

Rank Group by Severity of all Dental Treatment Needs for Grade School Children at Ft. Lewis

% of Grade School Children

Severity of all Dental Treatment Needs

	None	Routine	Emergent
<u>Rank Group</u>			
All Ranks (n=1235)	43.2%	50.9%	6.0%
Enlisted (n=930)	42.3%	50.6%	7.1%
Officer (n=191)	49.2%	49.2%	1.6%
Warrant (n=91)	38.5%	57.1%	4.4%
E1-E4 (n=54)	44.4%	46.3%	9.3%
E5-E6 (n=541)	40.5%	53.4%	6.1%
E7-E9 (n=335)	44.8%	46.9%	8.3%
O1-O3 (n=96)	46.9%	52.1%	1.0%
O4 + (n=95)	51.6%	46.3%	2.1%
Unknown (n=23)			

Table 4-133

Percent of Grade School Children at Ft. Lewis Classified in Need of No Dental Care Who were Diagnosed as Needing an Oral Prophylaxis (n=532)

% of Grade School Children

Prophy Need

Yes	24.4%
No	75.6%



Table 4-134

Rank Order of Type of Dental Condition Diagnosed as Primary Need  
Among Grade School Children at Ft. Lewis Classified in Need of  
Routine Dental Care (n=629)

% of Grade School Children  
in Need of Routine Dental Care

Type of Dental  
Condition  
Diagnosed as  
Primary Need

Sealants	40.1%
Caries	34.8%
Orthodontics	20.0%
Defective Restorations	3.0%
Extractions	1.1%
Other	0.6%

Table 4-135

Rank Order of Type of Dental Condition Diagnosed as Primary Need  
Among Grade School Children at Ft. Lewis in Need of Emergency  
Dental Care (n=74)

% of Grade School Children  
in Need of Emergency Care

Type of Dental  
Condition  
Diagnosed as  
Primary Need

Caries	75.7%
Extractions	23.0%
Defective Restorations	1.4%

Table 4-136

## Age by Intensity of Restorative Treatment Needs for High School Students

% of High School Students

Intensity of Restorative Treatment Needs

	None	1-3 Teeth	4-6 Teeth	7 + Teeth
<u>Age</u>				
All ages (n=299)	82.9%	14.4%	2.0%	0.7%
12-13 yrs. (n=76)	86.8%	13.2%	0%	0%
14-15 yrs. (n=116)	81.0%	15.6%	1.7%	1.7%
16-17 yrs. (n=85)	85.9%	12.9%	1.2%	0%
18-19 yrs. (n=22)	68.2%	18.2%	13.6%	0%
Unknown (n=0)				

Table 4-137

## Race by Intensity of Restorative Treatment Needs for High School Students

<u>Race</u>	% of High School Students			
	<u>Intensity of Restorative Treatment Needs</u>			
	None	1-3 Teeth	4-6 Teeth	7 + Teeth
All Races (n=299)	82.9%	14.4%	2.0%	0.7%
White (n=200)	86.0%	13.0%	0.5%	0.5%
Black (n=63)	69.8%	22.2%	6.4%	1.6%
Hispanic (n=30)	93.3%	3.3%	3.3%	0%
Unknown (n=6)				

Table 4-138

## Rank Group by Intensity of Restorative Treatment Needs for High School Students

% of High School Students

Intensity of Restorative Treatment Needs

	None	1-3 Teeth	4-6 Teeth	7 + Teeth
<u>Rank Group</u>				
All Ranks (n=299)	82.9%	14.4%	2.0%	0.7%
Enlisted (n=183)	82.0%	14.2%	2.7%	1.1%
Officer (n=104)	85.6%	13.4%	1.0%	0%
Warrant (n=12)	75.0%	25.0%	0%	0%
E1-E6 (n=81)	85.2%	7.4%	4.9%	2.5%
E7-E9 (n=102)	79.4%	19.6%	1.0%	0%
O1-O3 (n=19)	94.7%	5.3%	0%	0%
O4 + (n=85)	83.5%	15.3%	1.2%	0%
Unknown (n=0)				

Table 4-139

## Age by Mix of Restorative Treatment Needs for High School Students

<u>Age</u>	% of High School Students		
	<u>Mix of Restorative Treatment Needs</u>		
	None	Simple	Complex
All ages (n=299)	83.3%	10.0%	6.7%
12-13 yrs. (n=76)	86.8%	11.8%	1.4%
14-15 yrs. (116)	81.9%	12.1%	6.0%
16-17 yrs. (n=85)	85.9%	4.7%	9.4%
18-19 yrs. (n=22)	68.2%	13.6%	18.2%
Unknown (n=0)			

Table 4-140

## Race by Mix of Restorative Treatment Needs for High School Students

<u>Race</u>	% of High School Students		
	<u>Mix of Restorative Treatment Needs</u>		
	None	Simple	Complex
All Races (n=299)	83.3%	10.0%	6.7%
White (n=200)	86.5%	7.5%	6.0%
Black (n=63)	69.8%	19.1%	11.1%
Hispanic (n=30)	93.3%	3.3%	3.4%
Unknown (n=6)			

Table 4-141

Education Level of Child's Father by Mix of Restorative Treatment Needs for High School Students

<u>Education Level of Child's Father</u>	% of High School Students		
	<u>Mix of Restorative Treatment Needs</u>		
	None	Simple	Complex
All educ. levels (n=299)	83.3%	10.0%	6.7%
H.S. grad or less (n=41)	82.9%	9.8%	7.3%
Some college (n=109)	81.6%	10.1%	8.3%
College grad or more (n=145)	84.8%	9.7%	5.5%
Unknown (n=4)			



Table 4-142

## Rank Group by Mix of Restorative Treatment Needs for High School Students

<u>Rank Group</u>	% of High School Students		
	<u>Mix of Restorative Treatment Needs</u>		
	None	Simplex	Complex
All Ranks (n=299)	83.3%	10.0%	6.7%
Enlisted (n=183)	82.5%	10.9%	6.6%
Officer (n=104)	85.6%	8.6%	5.8%
Warrant (n=12)	75.0%	8.3%	16.7%
E1-E6 (n=81)	86.4%	8.6%	5.0%
E7-E9 (n=102)	79.4%	12.8%	7.8%
O1-O3 (n=19)	94.7%	5.3%	0%
O4 + (n=85)	83.5%	9.4%	7.1%
Unknown (n=0)			

Table 4-143

Age by Distribution of Restorative Procedures Among Teeth in Need  
of Restorative Care for High School Students

% of High School Students

Distribution of Restorative Procedures

<u>Age</u>	1 Surf Rest	2 Surf Rest	3-5 Surf Rest	Ext.	C & B
All ages (n=90)	57.8%	12.2%	2.2%	17.8%	10.0%
12-15 yrs. (n=52)	67.3%	11.6%	0%	9.6%	11.5%
16-19 yrs. (n=38)	44.7%	13.2%	5.3%	28.9%	7.9%
Unknown (n=0)					

Table 4-144

Race by Distribution of Restorative Procedures Among Teeth in  
Need of Restorative Care for High School Students

% of High School Students

Distribution of Restorative Procedures

<u>Race</u>	1 Surf Rest	2 Surf Rest	3-5 Surf Rest	Ext.	C & B
All Races (n=90)	57.8%	12.2%	2.2%	17.8%	10.0%
White (n=35)	57.2%	5.7%	5.7%	17.1%	14.3%
Black (n=47)	59.6%	19.1%	0%	21.3%	0%
Unknown (n=8)					

Table 4-145

Education Level of Child's Father by Distribution of Restorative Procedures Among Teeth in Need of Restorative Care for High School Students

% of High School Students

Distribution of Restorative Procedures

	1 Surf Rest	2 Surf Rest	3-5 Surf Rest	Ext.	C & B
<u>Education</u>					
<u>Level of</u>					
<u>Child's Father</u>					
All educ. levels (n=90)	57.8%	12.2%	2.2%	17.8%	10.0%
Some college or less (n=55)	54.6%	12.7%	1.8%	21.8%	9.1%
College grad or more (n=34)	61.8%	11.8%	2.9%	11.8%	11.7%
Unknown (n=1)					

Table 4-146

Rank Group by Distribution of Restorative Procedures Among Teeth  
in Need of Restorative Care for High School Students

% of High School Students

Distribution of Restorative Procedures

<u>Rank Group</u>	1 Surf Rest	2 Surf Rest	3-5 Surf Rest	Ext.	C & B
All Ranks (n=90)	57.8%	12.2%	2.2%	17.8%	10.0%
Enlisted (n=65)	56.9%	15.4%	1.5%	18.5%	7.7%
Officer and Warrant (n=25)	60.0%	4.0%	4.0%	16.0%	16.0%
Unknown (n=0)					

Table 4-147

## Age by Number of Surfaces Needing Sealants for High School Students

<u>Age</u>	% of High School Students				
	<u>Number of Surfaces Needing Sealants</u>				
	None	1	2	3	4 +
All ages (n=299)	60.5%	12.4%	8.0%	7.7%	11.4%
12-13 yrs. (n=76)	69.7%	5.3%	7.9%	7.9%	9.2%
14-15 yrs. (n=116)	53.4%	16.4%	8.6%	9.5%	12.1%
16-17 yrs. (n=85)	61.2%	12.9%	9.4%	3.5%	13.0%
18-19 yrs. (n=22)	63.7%	13.6%	0%	13.6%	9.1%
Unknown (n=0)					

Table 4-148

Race by Number of Surfaces Needing Sealants for High School Students

% of High School Students					
<u>Number of Surfaces Needing Sealants</u>					
	None	1	2	3	4 +
<u>Race</u>					
All Races (n=299)	60.5%	12.4%	8.0%	7.7%	11.4%
White (n=200)	64.0%	12.5%	8.0%	7.5%	8.0%
Black (n=63)	47.6%	14.3%	6.4%	9.5%	22.2%
Hispanic (n=30)	60.0%	10.0%	13.4%	3.3%	13.3%
Unknown (n=6)					

Table 4-149

Education Level of Child's Father by Number of Surfaces Needing Sealants for High School Students

% of High School Students

Number of Surfaces Needing Sealants

	None	1	2	3	4 +
<u>Education Level of Child's Father</u>					
All educ. levels (n=299)	60.5%	12.4%	8.0%	7.7%	11.4%
H.S. grad or less (n=41)	46.3%	9.8%	17.1%	7.3%	19.5%
Some college (n=109)	56.0%	11.0%	6.4%	12.8%	13.8%
College grad or more (n=145)	69.0%	13.1%	6.2%	4.1%	7.6%
Unknown (n=4)					



Table 4-150

## Rank Group by Number of Surfaces Needing Sealants for High School Students

% of High School Students

Number of Surfaces Needing Sealants

	None	1	2	3	4 +
<u>Rank Group</u>					
All Ranks (n=299)	60.5%	12.4%	8.0%	7.7%	11.4%
Enlisted (n=183)	55.7%	10.4%	8.7%	9.3%	15.9%
Officer (n=104)	69.2%	15.4%	6.7%	3.9%	4.8%
Warrant (n=12)	58.3%	16.7%	8.3%	16.7%	0%
E1-E6 (n=81)	49.4%	6.2%	13.6%	9.9%	20.9%
E7-E9 (n=102)	60.8%	13.7%	4.9%	8.8%	11.8%
O1-O3 (n=19)	79.0%	10.5%	5.3%	5.2%	0%
O4 + (n=85)	67.1%	16.5%	7.0%	3.5%	5.9%
Unknown (n=0)					

Table 4-151

Race by Orthodontic Treatment Priority Index Score for 12-17 year old High School Students

% of High School Students

Orthodontic Treatment Priority Index Score

<u>Race</u>	Normal/Minor	Elective	Severe/ Handicapping
All Races (n=276)	58.7%	18.1%	23.2%
White (n=184)	64.1%	16.3%	19.6%
Black (n=57)	45.6%	24.6%	29.8%
Hispanic (n=29)	44.8%	17.2%	37.9%
Unknown (n=6)			

Table 4-152

Education Level of Child's Father by Orthodontic Treatment  
Priority Score for 12-17 year old High School Students

% of High School Students

Orthodontic Treatment Priority Index Score

	Normal/Minor	Elective	Severe/ Handicapping
<u>Education</u>			
<u>Level of</u>			
<u>Child's Father</u>			
All educ. levels (n=276)	58.7%	18.1%	23.2%
H.S. grad or less (n=38)	47.4%	15.8%	36.8%
Some college (n=98)	55.1%	23.5%	21.4%
College grad or more (n=136)	63.2%	15.5%	21.3%
Unknown (n=4)			

Table 4-153

Rank Group by Orthodontic Treatment Priority Index Score for 12-17 year old High School Students

% of High School Students

Orthodontic Treatment Priority Index Score

<u>Rank Group</u>	Normal/Minor	Elective	Severe/ Handicapping
All Ranks (n=276)	58.7%	18.1%	23.2%
Enlisted (n=165)	48.5%	20.6%	30.9%
Officer (n=100)	73.0%	14.0%	13.0%
Warrant (n=11)	81.8%	18.2%	0%
E1-E6 (n=74)	55.4%	21.6%	23.0%
E7-E9 (n=91)	42.9%	19.8%	37.4%
O1-O3 (n=19)	52.6%	15.8%	31.6%
O4 + (n=81)	77.8%	13.6%	8.6%
Unknown (n=0)			

Table 4-154

## Age by Severity of all Dental Treatment Needs for High School Students

% of High School Students

Severity of all Dental Treatment Needs

	None	Routine	Emergent
<u>Age</u>			
All ages (n=298)	47.7%	51.0%	1.3%
12-13 yrs. (n=76)	56.6%	43.4%	0%
14-15 yrs. (n=115)	39.1%	60.0%	0.9%
16-17 yrs. (n=85)	50.6%	48.2%	1.2%
18-19 yrs. (n=22)	50.0%	40.9%	9.1%
Unknown (n=0)			

Table 4-155

## Race by Severity of all Dental Treatment Needs for High School Students

% of High School Students			
<u>Severity of all Dental Treatment Needs</u>			
	None	Routine	Emergent
<u>Race</u>			
All Races (n=298)	47.7%	51.0%	1.3%
White (n=199)	52.8%	47.2%	0%
Black (n=63)	34.9%	58.7%	6.4%
Hispanic (n=30)	36.7%	63.3%	0%
Unknown (n=6)			

Table 4-156

Education Level of Child's Father by Severity of all Dental Treatment Needs for High School Students

% of High School Students

Severity of all Dental Treatment Needs

	None	Routine	Emergent
<u>Education</u>			
<u>Level of</u>			
<u>Child's Father</u>			
All educ. levels (n=298)	47.7%	51.0%	1.3%
H.S. grad or less (n=41)	36.6%	58.5%	4.9%
Some college (n=109)	42.2%	56.9%	0.9%
College grad or more (n=144)	55.6%	43.7%	0.7%
Unknown (n=4)			

Table 4-157

## Rank Group by Severity of all Dental Treatment Needs for High School Students

% of High School Students

Severity of all Dental Treatment Needs

	None	Routine	Emergent
<u>Rank Group</u>			
All Ranks (n=298)	47.7%	51.0%	1.3%
Enlisted (n=182)	42.3%	55.5%	2.2%
Officer (n=104)	56.7%	43.3%	0%
Warrant (n=12)	50.0%	50.0%	0%
E1-E6 (n=80)	40.0%	55.0%	5.0%
E7-E9 (n=102)	44.1%	55.9%	0%
O1-O3 (n=19)	63.2%	36.8%	0%
O4 + (n=85)	55.3%	44.7%	0%
Unknown (n=0)			



Table 4-158

Percent of High School Students at Ft. Sam Houston Classified in  
Need of No Dental Care Who Were Diagnosed as Needing an Oral  
Prophylaxis (n=142)

% of High School Students

Prophy Need

Yes	27.5%
No	72.5%

Table 4-159

Rank Order of Type of Dental Condition Diagnosed as Primary Need  
Among High School Students at Ft. Sam Houston Classified in Need  
of Routine Dental Care (n=152)

% of High School Students

Type of Dental  
Condition  
Diagnosed as  
Primary Need

Sealants	52.6%
Orthodontics	19.7%
Caries	13.2%
Extractions	5.3%
Other	3.3%
Defective Restorations	2.6%
Prosthetics	2.0%
Soft Tissue Pathology	1.3%